

Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

**Meet Me In St. Louis,
Looney—or Everywhere!**
Courteous Insults
Well, You Can't Beat
The Hours
Another Babe Herman?
Brother Acts
Deans of the Family

Meet Me In St. Louis, Looney—or Everywhere!

Tomorrow, all the voted-best baseball players in the American League will commit mayhem on their opposite numbers from the National League, in the annual All-Star Game. And *vice versa*.

Site: the romantically historic city of St. Louis.

Customarily at this time, and "by popular demand" (as theatrical entertainers always put it) we present for your edification a new collection of anecdotes about baseball.

When the Dodgers move to Los Angeles, incidentally, don't expect that Governor Knight or Mayor Poulson will throw out the first ball of the season.

Jayne Mansfield or Marilyn Monroe are more likely candidates.

Courteous Insults

Among the "discoveries" of recently-deceased Yankee scout Paul Krichell were Lou Gehrig, Leo Durocher, Charlie Keller, Phil Rizzuto, and Whitey Ford. Not all of his signees turned out that well, however. There was Johnny Broaca, a hurler from Yale. . . .

In his pitching debut, Johnny hit two batsmen, issued four walks, balked. . . .

"Hey, Krichell," cupped-hands-yelled Gomez, "don't you wish you'd discovered me instead of Broaca?"

"Charlie," Cubs catcher Dee Williams insulted Umpire Berry, "How can you fit that square head of yours into a round mask?"

Rotund Jimmy Dykes sat up late in a hotel lobby, pretending to read a newspaper. In sneaked one of his ballplayers, long past curfew.

Manager Dykes left him this note:

"Your fine is \$25. Always remember to say good night to your manager."

"Why did you toss Manager Paul Richards out of the game today?" queried a Baltimore sportswriter.

"He was sick," replied Umpire Ed Rommel.

(Concluded on Page 12, Col. 1)

'Quiet, Please,' Is the Cue For Air Conditioning

WHAT DO PEOPLE desire in air conditioning design? According to available consumer surveys, they want air conditioners to be:

- (1) Invisible
- (2) Inaudible
- (3) Inexpensive

In connection with the third craving, they expect installation and service costs comparable to those of an electric refrigerator (which are practically nil).

All these desires—wrapped up together in a single package—presently would seem to be impossible. They add up to a *nothingness* actually, a species of virtual non-existence for the product.

In sum, prospective buyers want the effect of air conditioning without having to bother with, or be aware of, the machinery which produces it.

They remind us of a formerly popular miniature sculpture souvenir—which consisted of Siamese triplet monkeys gesturing "see no evil, hear no evil, speak no evil." Maybe monkeys can live up to that creed. But humans—never! Nor, in the present stage of refrigeration engineering, do our industry's products.

Even so, the above characteristics (no see, no hear, no nothing) are what human beings want in future air conditioners, it would seem.

They desire the comfort of air conditioning, to be sure. Contradictorily (an all-too-human tendency) they hope they

(Concluded on Page 16)

Pending Strike End

So. Calif. Sheet Metal Shops Shut

LOS ANGELES—Contractors attending a meeting Tuesday, July 2, concerning the Sheet Metal Workers union strike in four southern California counties, voted to shut the industry down pending a settlement with the union.

Some 6,000 sheet metal workers in southern California are on strike and the work they do in architectural sheet metal, air conditioning, heating, industrial ventilation, kitchen equipment, metal decking and siding, metal equipment, and service station buildings, has come to a halt.

Newspaper items, and editorials, have pointed out the delay caused by the strike, to schools now being constructed, many planned for use in September, others in February.

Answering a communication from the school board, which the contractors meeting considered,

(Concluded on Page 4, Col. 4)

Bohn Names Thomas Chief of Betz Div.

DETROIT—Terry W. Kuhn, executive vice president of Bohn Aluminum & Brass Corp., announced the appointment of Blake Thomas as general manager of Bohn's Betz Div. in Danville, Ill.

The Betz Div. manufactures products for the air conditioning and refrigeration industry.

Thomas has been in the in-

(Concluded on Page 33, Col. 3)

Cooling Sales Spurt as Heat Hits So. Calif.

LOS ANGELES—Hot weather came earlier than usual to southern California this year. A heat wave, hitting 104 and 108° in parts of the metropolitan area, early in June, continues on into the first days of July.

Air conditioning sales spurted. Dealers are swamped with inquiries. Distributors' facilities have been taxed.

Many commercial jobs hanging fire suddenly reached the installation stage when owners made up their minds quickly because of the heat.

Developers of home tracts are

(Concluded on Back Page, Col. 1)

Lewin-Mathes Is Cerro de Pasco Div.

NEW YORK CITY—Cerro de Pasco Corp. has acquired the assets and business, subject to liabilities, of Lewin-Mathes Co., manufacturer of copper and brass tube, pipe and rod, with marketing facilities throughout the United States.

The announcement was made jointly by Robert P. Koenig, Cerro de Pasco president, and Felix S. Dreyer, president of Lewin-Mathes Co.

The acquisition was made in exchange for 303,918 shares of Cerro de Pasco common stock, thereby increasing the level of

(Concluded on Page 33, Col. 1)

Weather Bureau: Hotter-than-Normal July In Eastern Half

DETROIT—July is scheduled to be hotter than normal in most of the heavily populated areas of the country.

That's the official United States Weather Bureau 30-day weather outlook for the month. The forecast calls for temperatures to "average above seasonal normals" over the southern half of the nation, and also over the Ohio Valley and Middle Atlantic states, the latter including the populous New York and Philadelphia areas. "Much above normal" temperatures are predicted for the southern California area.

The only place where below

(Concluded on Back Page, Col. 5)

Mfr. Sampling Sees

Steel Price Hike To Affect Other Items

DETROIT—The average \$6 per ton increase in the price of steel that took effect on July 1 will "eventually, if not now" be reflected in higher prices of most products using steel, pronouncements from manufacturers in various industries indicate.

In the refrigeration and air conditioning fields, a NEWS sampling of manufacturers indicates that it is still too early to tell what effect the steel price increase will have.

Purchasing agents said they

(Concluded on Page 33, Col. 4)

Louisville Gesco Offers 'Fair Value' Pricing Program

LOUISVILLE, Ky.—Puncturing inflated prices designed to cover up excessive trade-in allowances, the General Electric Supply Co. here recently launched a "Fair Value" pricing program on its major appliances.

Under the system, every G-E

(Concluded on Page 33, Col. 4)

RACCA-UA Renew Joint Committee

Southern Calif. RACCA Rejoins National Group

WASHINGTON, D. C. — Following a meeting here of the directors of the Refrigeration and Air Conditioning Contractors Association (national) it was announced that the RACCA-United Association joint committee activity was re-established for another year, that progress was being made in developing the "mechanics" for apprentice training programs in the field, and that RACCA of Southern California, Inc., had re-affiliated with the national group.

The contractor and union joint committee activity is set up for a year's period, and must be re-established every year. The contractor members, reporting on a recent meeting of the joint group, reported satisfaction of both sides with the recent "statewide" or "area wide" labor contracts of the type that have gone into effect in New

(Concluded on Page 33, Col. 3)

13 UA Locals Sign RACCA Contracts

CLEVELAND — Thirteen locals of the United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry in eastern Pennsylvania have signed contracts with the local associations of the Refrigeration and Air Conditioning Contractors Association in that area.

This was announced here recently by Ray Kromer, executive vice president of RACCA. He said that the new contracts follow the New Jersey state contract with one important exception.

On cooling equipment through

(Concluded on Page 33, Col. 3)

BEHIND PAGE ONE . . .

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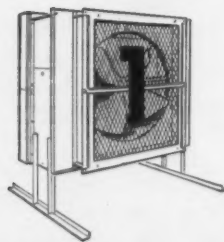
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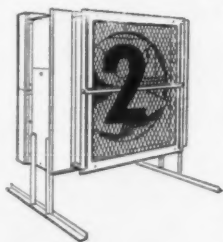
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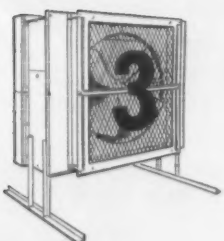
Artie-Kar (1) 32

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Copper Tube SPECIALISTS**SECOND to NONE**
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Air Conditioning Equipment**READING TUBE CORPORATION**
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GUARANTEES ALL****4****MAXIMUM LIQUID PRESSURE
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WINTERTIME**

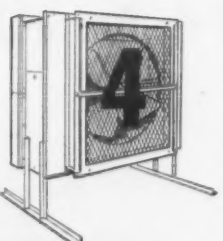
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WRITE FOR BULLETIN U-210-L**KRAMER TRENTON CO. • Trenton 5, N.J.**

43 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

Science of Heat Transfer**Trane To Double Research, Test Center
Size In 2 Steps at Cost of \$700,000**

LA CROSSE, Wis. — The Trane Co. has announced plans for further expansion of its research and testing center. When complete the facility will be double the size of the original building constructed in 1953.

The present Trane research facilities are believed to be among the largest devoted exclusively to the science of heat exchange.

'MAKE ADVANCES'

D. C. Minard, Trane president said that "With our new engineering technical center available and our research and testing expansion program, we believe we will be well equipped to make further advancement

in the science of heat transfer. The problems associated with adding or subtracting heat are becoming more complex and additional facilities were needed to cope with them."

Cost of the program is about \$700,000 and involves 35,000 sq. ft. of test area.

The expansion is being handled in two steps.

First, a special test area of about 5,000 sq. ft. is being constructed. For the most part, tests will deal with special applications for heat exchangers and high temperature heat dissipation problems common in guided missiles, jet aircraft, and atomic energy development.

TO EXTEND TUNNEL

The second step, involving 30,000 sq. ft., will house space for extension of the wind tunnel test area where gales up to 60 m.p.h. are created, enclosed fan testing room, unit heater and residential air conditioning test facilities, and area for testing large air conditioning units.

Contracts have been awarded and construction is under way. Magney, Tussler and Setter of Minneapolis is the architect for the project. Wisconsin-Minnesota Construction Co. of Winona, Minn., is general contractor. Sub-contractors are Papenfuss Electric Co., electrical work, and F. M. Branson & Sons, plumbing, heating, and air conditioning.

**Frigidaire To Open 5-Day
Refrigeration Service
School In Detroit July 15**

DETROIT — A new five-day Fundamentals of Refrigeration Service school will be offered appliance servicemen July 15 to 19 by Frigidaire Sales Corp., at the General Motors Training Center, 7707 W. Chicago, here.

The school, running from 8:30 a.m. to 4:30 p.m., will cover "Heat and Properties of Matter," "Heat and its Relationship to Refrigeration," and application of fundamentals, including diagnosis procedures, tools, etc.

Registration is required in advance and the Frigidaire Sales Corp. will assist in arranging room reservations for out-of-town men.

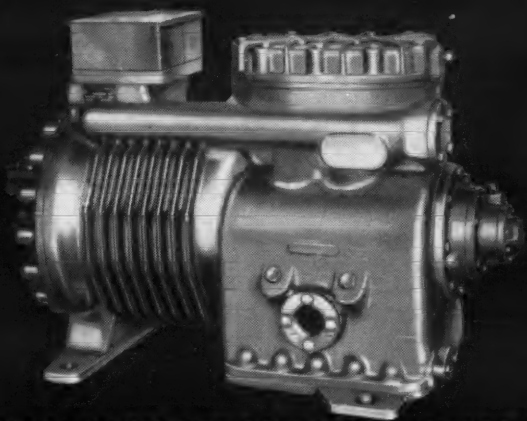
The address for registration is, Frigidaire Sales Corp., 13940 Tireman Ave., Detroit 28, Mich.

**Refrigeration Cools Army
Drill Fluid In Sub-Arctic**

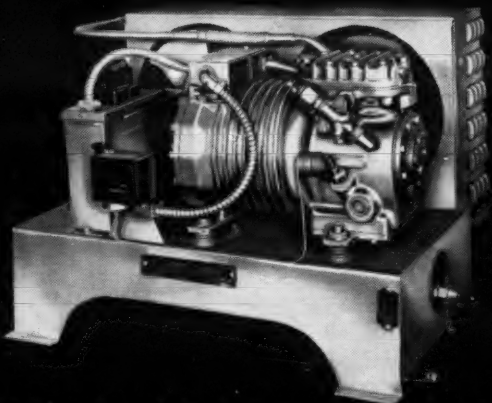
BUFFALO — The Army finds itself in the unique position of having to store ice, make ice, or keep refrigerators in the sub-Arctic.

This was revealed by M. Juul Hvorslev and Thomas Goode of the Army Waterways Experiment Station in Vicksburg, Miss., during the American Society of Civil Engineers convention.

When they make foundation construction studies during the summer, they need the ice to cool drilling fluids. Ice, they reported, is not always available, so they must either harvest and store natural ice or use dry ice or mechanical refrigeration for the fluid.



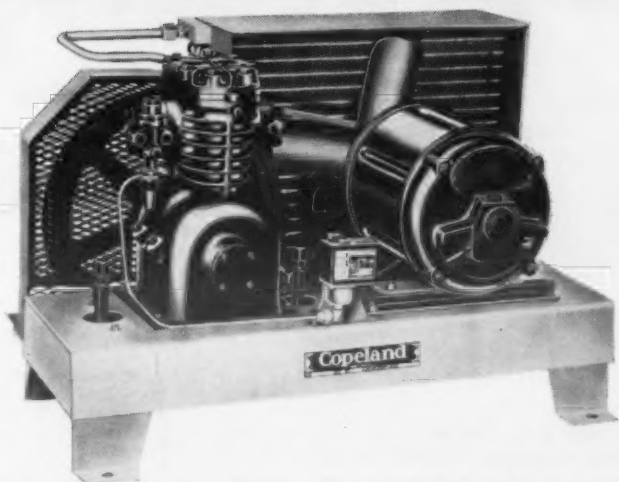
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Copeland's distribution policy — backed by products of exceptional quality and 100% dependable service — is a sure-fire click. It opens the door to added volume, earnings and all-around satisfaction. Consider these facts:

- field sales stocks of motor-compressors and condensing units valued at close to \$4,000,000.
- more than 25,000 sales-conscious dealers from coast to coast, working closely with our nearly 150 wholesalers.
- in-or-out-of-warranty service protection which builds sales for wholesalers of new parts and replacement equipment.
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- speeded-up service and unexcelled quality, thanks to Copeland's spanking-new factory.

Depend on Copeland . . . always a safe bet to deliver.

SINCE 1918

Copeland
REFRIGERATION CORPORATION

Sidney, Ohio



Sylvia Porter Stirs Tempest

Headquarters of the News IS Air Conditioned (And We're Even Letting the Salesmen Stay Cool)

DETROIT—Are the facilities occupied by AIR CONDITIONING & REFRIGERATION NEWS air conditioned?

Most certainly they are completely air conditioned, and this includes all of the print shop, press room, and mailing room space. Furthermore, the headquarters of AIR CONDITIONING & REFRIGERATION NEWS have been air conditioned since 1934.

Syndicated Sylvia Interviews Bob Price

Why then the question, and why this story? It all came about when Sylvia Porter, widely syndicated columnist on

business and financial matters, wrote a recent column on the air conditioning business. In her column she quoted extensively from an interview with R. M. "Bob" Price, advertising sales manager of AIR CONDITIONING & REFRIGERATION NEWS, who operates from leased quarters in a big office building in New York City, not from the headquarters of the NEWS in Detroit.

In the course of the interview Miss Porter said "In my hot box of an office, productivity means staying awake. I'll bet your place is enviably cool." She then reported that Bob replied "No, we haven't bought our unit yet.

But one more day of this heat and I swear I'll buy one." (Bob says that this is not a completely accurate quotation.)

So why shouldn't the branch or field offices of the NEWS be air conditioned—even though the premises are leased—when the headquarters are completely air conditioned?

Well, to retrogress a little, the headquarters haven't always been completely air conditioned. Which parts weren't? They were the parts occupied by those who comprise the staff who sell advertising space in the NEWS—and who shouldn't be spending their time sitting in nice, comfortable air conditioned offices.

'Salesmen Are Human'

But the bosses finally decided that salesmen are human and suffer like anyone else, and that they have assistants who must spend most of their time in the office, so the office space assigned to salesmen at the headquarters in Detroit was air conditioned. And Bob Price is getting a unit for his leased space in New York (in fact, he was getting it at the time of his interview with Miss Porter).

While we're on the subject, a word or two about the systems which have provided comfort cooling for the NEWS' facilities. At the quarters occupied by the NEWS through 1945 on Cass Avenue in Detroit (taken over by the city in the expansion of Wayne University), a central system with zone control was installed in 1934.

It probably offered the first complete cooling of business establishment in the Detroit area, and had many unusual features, including glass panels in the coil sections so that observers could see the moisture being "wrung out" of the air.

Present Equipment Serves As 'Lab' for Staff

Present quarters at 450 W. Fort St. were not particularly suited for the installation of one central system—and besides, it was felt that the application of several different kinds of systems would give the staff some experience with a variety of methods of air conditioning.

So, in our present quarters will be found a central system with ductwork, several "package" commercial conditioners ranging from 5 to 10 tons capacity, and a number of window room air conditioners. In the press room, of course, air conditioning has long proved its value in helping to assure the high quality printing of each issue of the NEWS.

What of Miss Porter's column? It was a pretty good round-up of the current situation particularly where it quoted "Bob Price, an executive of AIR CONDITIONING & REFRIGERATION NEWS, the bible of the industry," but it had no startling news—beyond the fact that Bob Price's office wasn't air conditioned—which brought a number of letters from subscribers to the NEWS saying, literally, "what the hell goes on here."

Sheet Metal Strike--

(Concluded from Page 1, Col. 2) the following official statement was issued by the Sheet Metal Trades Administrative council handling the strike for the employers:

"If jobs were permitted to continue at the increase in wages demanded by the unions, the entire school program would be jeopardized."

In a reply to the Los Angeles City Board of Education, Henry B. Ely, chairman of the council, said "the inflationary union demands would raise the cost of school buildings at least 5% over present school budgets, thereby causing a possible cancellation of many projects."

"We appreciate that some school children may be deprived this fall of separate school classrooms, but we feel we are protecting the over-all school program for the years to come, in our resistance to present union demands."

"The taxpayers will not be able to afford the necessary school buildings if construction costs continue to skyrocket."

"The Board of Directors of the Sheet Metal Trades Administrative Council today authorized a suit for an injunction to prevent any sheet metal or air conditioning contractor from signing the inflationary demands of the union."

"If an individual contractor will not protect the public, but signs the 75-cent hourly wage increase, just to stay in business, we will use every effort to

stop him," the statement concluded.

The sheet metal situation is complicated by simultaneous work stoppages by plumbers and pipe fitters, and hod carriers.

Prolongation of the deadlock in these fields could cause 100,000 construction workers to become idle. Newspaper headlines declare half a billion dollars in construction jobs is involved.

Refrigeration fitters, a branch of the Los Angeles local of the U.A., operate separately from the refrigeration fitters own office under their own business agents, and are working under a contract negotiated in early '57.

Refrigeration fitters in Los Angeles and Orange counties are not affected by work stoppages by plumbers and pipe fitters.

Members of the employers groups met Tuesday afternoon, July 2. Their activities are coordinated through appointed representatives in seven areas.

Wage and fringe demands made by the unions six weeks ago called for increases which employers said would make sheet metal work including air conditioning cost the owner 20% to 25% more, and service work could go up to \$10 an hour.

Both sides are well organized in the sheet metal strike. A work stoppage of 10 days to three weeks is a possibility, despite the strong back-log of orders for air conditioning installations, greater than ever before at this stage of the summer season.

Says: Jack Tullos, President-Manager of the eye-filling new Shreveporter Highway Hotel...

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 - "Periodic filter change our only maintenance."
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The corresponding temperature scales are in color. Note the wide ranges of sizes and readings in F-12 and F-22 types.

Here is the gauge for permanent installation on refrigeration systems... with the Marsh "Recalibrator" to keep it permanently accurate. Write for facts or See Your Jobber

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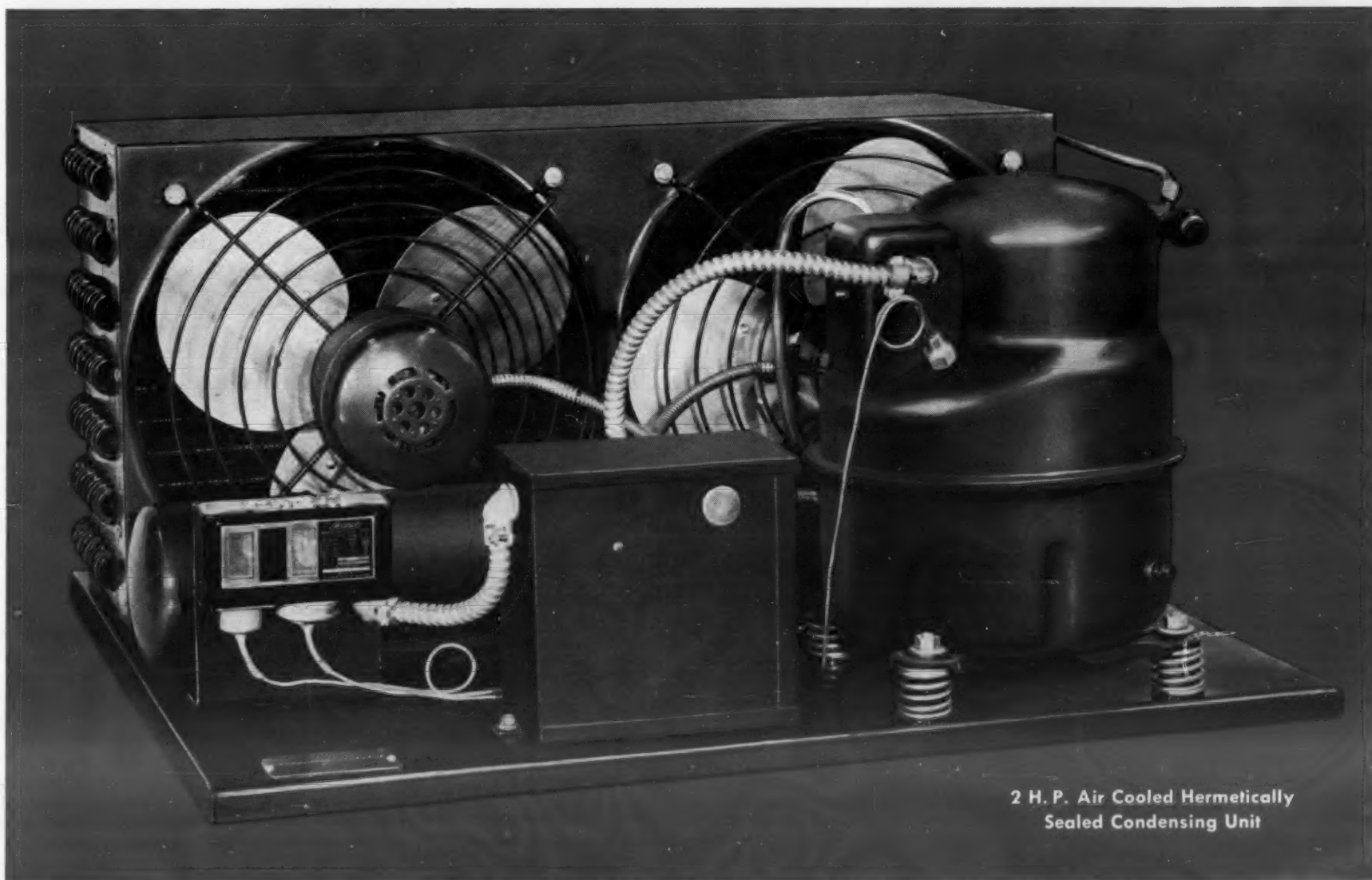
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- ✓ Dial size, 2 1/2" only for gauges with both Freon-12 and Freon-22 scales.
- ✓ Dial range for pressure gauges: 0-300 lbs. and 0-400 lbs. For compound gauges, 30" x 150 lbs., 30" x 300 lbs., 30" x 400 lbs.
- ✓ All gauges have "Recalibrator." All except 3 1/2" and 4 1/2" gauges standard with 1/4" male bottom connection and restriction screw in socket. 3 1/2" and 4 1/2" gauge have 1/4" N.P.T. connection.

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For more information about products advertised on this page use Information Center, page 22.

'Sound, Vibration' In Air Conditioning Spotlighted at ASHAE June Meeting; Steps Traced To Silence Diesel-Driven Heat Pump

MURRAY BAY, Canada — Presentation of technical papers, for the most part covering basic research in many different phases of heating and air conditioning, took the dominant role at the 1957 semiannual meeting of the American Society of Heating and Air Conditioning Engineering in late June.

At the semiannual meeting there is not much society business conducted, and there was no open discussion of any society affairs, such as a reference to the possibility of an affiliation of some sort with the American Society of Refrigerating Engineers, a subject on which that group heard some discussion at its recent annual meeting in Miami, Fla.

In addition to the 14 formal papers presented at the technical sessions, there were two symposiums, one on "Air Conditioning Instrumentation" and one on "Sound and Vibration." The problem of noise was in the spotlight generally at the meeting, several of the formal papers dealing with the subject.

POSSIBLE COMMERCIAL DEVELOPMENT REVEALED

One possible commercial development came to light in the paper "Studies in Silencing a Diesel-Driven Heat Pump," by H. H. Vickers and R. W. Sage of the Esso Research and Engineering Co. The authors traced the steps taken in reducing Diesel engine noise from an intolerably high level to where a

5-ton capacity unit was a quiet as a good household oil burner.

Possibly more important was the point made that by making use of engine exhaust heat and incorporating speed control the heat pump unit required to give 5-tons capacity could be halved on a low temperature design basis without resorting to resistance heating.

"Thermal Circuit Analysis for Developing Application Engineering," by Stanley F. Gilman and O. William Clausen, both of Carrier Corp. research department, was based on the authors' experience in using the thermal circuit method to determine the effect of thermal storage on cooling load.

The effect is important be-

cause in designing an air conditioning system for a commercial building the objective is to select refrigeration equipment that will closely match the peak cooling load. Merits and limitations of the thermal circuit method are analyzed and procedures are given for reducing the labor involved and minimizing the possibilities of error.

CONSIDERS NOISE CHARACTERISTICS

In his paper "Criteria for Room Noise from Air Conditioning," C. M. Ashley, chief staff engineer, Carrier Corp., considered the characteristics of noise which makes it acceptable or unacceptable, examined the noise criteria and suggested simplified, more refined methods to evaluate noise quality.

The need for further study is pointed out, particularly in evaluating the effect and quality of noise having bad characteris-

tics, and the need for more field experience on acceptable noise levels for certain room uses.

"An Evaluation of Four Methods for Determining the Sound-Power Output of a Fan," presented by W. F. Kerka, research engineer, ASHAE Research Laboratory, discussed an investigation of four methods for determining the sound-power output by octave band analysis.

LISTS METHODS TO FIND ACOUSTIC POWER

It listed methods adapted to determine the acoustic power of output of air-moving equipment, and stated that at least one, and in some cases two, of the test methods seem well adapted for determining the acoustic-power output, but concluded there is still a great need for information and when it becomes available it should be possible to predict and more accurately control the noise levels in air conditioned spaces.

"Acoustic Coupling of Residential Furnaces With Their Surroundings," by C. F. Speich, W. R. Dennis, and A. H. Putnam, all of Battelle Memorial Institute, showed that by placing in a room an oil furnace-burner unit whose oscillating frequency was close to the resonant frequency of the room, the authors found that acoustic coupling took place and a standing wave was set up.

The authors also observed large differences in the apparent noise level of the furnace when its position was changed in the room. An equation was developed which should prove helpful in determining whether a furnace will couple with a given room. Should coupling take place, methods are outlined to help locate the furnace in a position where it will give a low noise level.

MEASURE RESIDENTIAL INFILTRATION RATES

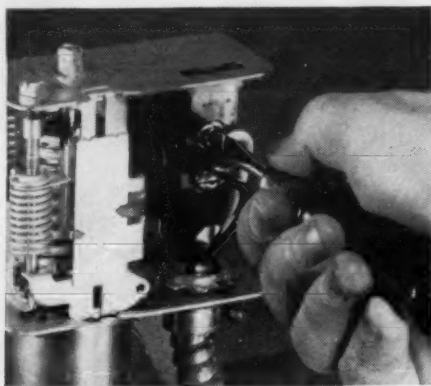
"Measurement of Infiltration in Two Residences," by D. R. Bahnfleth, T. D. Moseley, and W. S. Harris, all of the University of Illinois, covered the measurement of infiltration rates by means of the helium tracer gas method.

The helium gas was released in the experimental houses at the university and the time rate of decay of the helium concentration was measured and plotted. The amounts of infiltration which occurred during a given test period were computed from the decay curves.

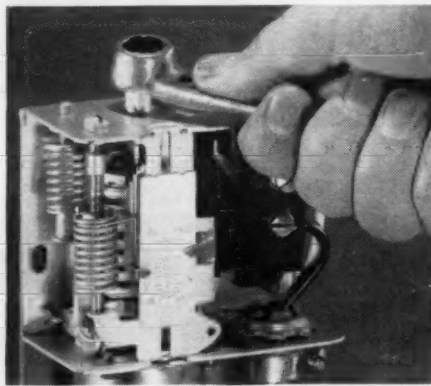
Effects of wind direction and velocity and indoor-outdoor temperature differences of the infiltration rates were also observed by the authors.

"Performances of Intermittently-Fired Oil Furnaces" by W. G. Colborne, Queens university, Kingston, Ont., was a presentation based on the idea that while performance tests on warm air furnaces normally are taken while running under steady-state conditions, in practical application the furnace operates intermittently under the controlled thermostat.

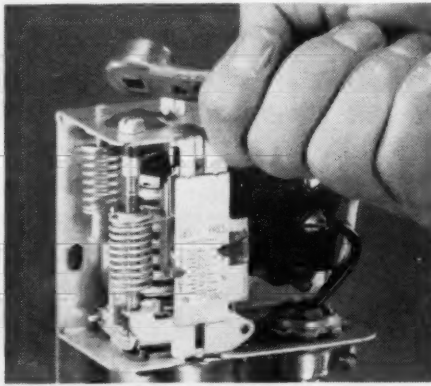
The paper discussed two tests on an oil-fired warm air furnace run under various conditions of intermittent operation. The tests showed that the performance under intermittent firing is different from that under continuous firing, and the author discussed the factors causing the changes in performance.



1. Mount control (bracket furnished), connect capillary, remove control cover and make 2 electrical connections (terminals are completely accessible).



2. Turn the range screw to either raise or lower the cut-in setting as required... differential does not change.



3. Turn differential screw to raise or lower cut-out setting independently of cut-in setting. This widens or narrows the differential.

Easier to Install...

Simpler to Adjust!

PENN "270"

SINGLE-POLE REFRIGERATION CONTROL



Series 270 is available in a variety of models for every refrigeration job.

Combines simple design with PENN "Snap-flex" contact action

Installation is so simple and fast with the Series 270. And, adjustment is even simpler because of Penn's direct-reading, calibrated scale indicating cut-in and cut-out settings. Time-wasting subtraction or addition is eliminated.

Once installed, the Series 270 will perform accurately and stay-on-the-job longer. One reason is the exclusive, "Snap-flex" contact structure with

"roll-wipe-snap" action on closing and opening. There's no bounce... no closing arc... no welding of contacts.

Try the Penn Series 270... in either single or double pole... on your next job and you'll discover a big difference. Ask your wholesaler for Penn.

PENN CONTROLS, INC.

Goshen, Indiana

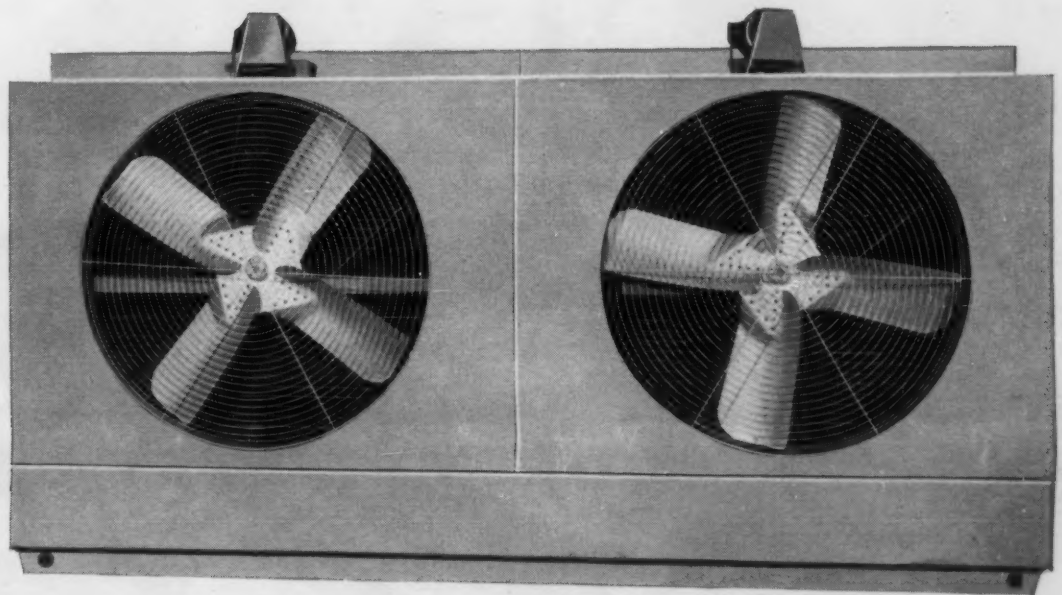
EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N. Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

For more information about products advertised on this page use Information Center, page 22.

HALSTEAD & MITCHELL ENGINEERS PROVE . . .

A 100-TON COOLING TOWER CAN BE QUIET



HERE ARE TWO, NEW LARGE SIZES ADDED TO HALSTEAD & MITCHELL'S
COMPETITIVELY-PRICED EC COOLING TOWER LINE

THE EC LINE. The addition of the 80- and 100-ton capacity towers extends the range of the more-value-per-dollar EC line. All 12 models, 5 to 100 tons, have outstanding features never before offered in this price group.

These include increased corrosion resistance due to rugged, 14-gage steel cabinets (12-gage sumps on the largest sizes) —weatherized by application of Vinsynite, Vinyl Zinc, and Chlorinated Rubber coatings. Exclusively, H&M offers pressure-creosoted wetted deck surfaces with the industry's only 20-Year Guarantee against rotting or damage due to fungus attack. New, sealed fan bearings are lubricated for life. Gravity-type distributing pans reduce pumping head, and cut down windage losses. Sump water levels are automatically controlled by integral float valves.

QUIET. Large diameter, four-bladed, deep pitch fans are belt-driven at low speeds by special weather and splash-proof motors. The EC-80 and EC-100 are driven at speeds of only 400 and 450 RPM. They're really quiet! Twin fans and drives power the three largest sizes, and all fans are of zinc plated, chromate dipped mild steel.

EC Series Cooling Towers are available in capacities of 5 thru 100 tons in standard, factory assembled models, or as Take-Aparts (ECK Series) for difficult-to-get-at installations. Residential, direct-drive ECD Series, with all the custom features and also competitively priced, come in capacities of 2 thru 7½ tons. Call your nearest Halstead & Mitchell wholesaler for delivery and prices or write: Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

WRITE FOR COMPLETE DETAILS



'Lucky Wheel' Bombing Produces Quick Sales Results



THREE Illinois towns were "bombed" with Norge "Lucky Wheels" recently by Will Wagner, Round Lake, Ill. Within 12 hours 27 major Norge appliances were sold. The promotion is checked by Jim Lukas, Norge distributor advertising salesman, Wagner (center), and Andy Greaczyk, Norge distributor salesman, sitting in the plane.

ROUND LAKE, Ill. — Will Wagner, local appliance dealer, "bombed" three towns on a Sunday and sold 27 major appliances within 12 hours.

His "bombs" were 10,000 Norge "Lucky Dispenser Wheel" cutouts thrown from a low flying plane rented for the occa-

sion. Townsfolk in Round Lake, Fox Lake, and Grayslake, Ill., alerted for the "bombing" by newspaper ads and radio spots the preceding week, quickly picked up all the wheels.

Within minutes the dealer's store and his additional display area at a local supermarket

were crowded as people came to check numbers of their Lucky Dispenser Wheel cutouts against the prize list. Prizes and merchandise certificates were awarded to winners.

More than 4,500 of the cardboard cutouts were returned in the 12-hour period and more returns were expected. The cutout resembles the Dispenser Wheel used on Norge automatic washers to automatically dispense Calgon water conditioner at the start of the rinse cycle.

"We'll be making sales for weeks," Wagner predicted. "The promotion produced many times the traffic we had expected and the 14 Norge automatic washers, 5 dryers, 5 refrigerators, 2 ranges, and 1 water heater sold is only the start." It was a relatively inexpensive promotion since plane rental amounted to only \$30.

NEMA Estimates Total Industry Refrigerator Sales In April Reach 281,600; Freezers 70,900

NEW YORK CITY—Total industry sales of electric household refrigerators in April reached an estimated 281,600 units as compared with 353,300 for the same month in 1956, the National Electrical Manufacturers Association reported here recently.

SALES DROP

Sales in the first four months of this year dropped to 1,195,000 as against the 1,381,700 for the like period last year, it was pointed out.

Total industry sales of farm and home freezers (both chests and uprights) hit 70,900 in April, a decline from the 95,300 for the same month in 1956.

First four months' sales amounted to 294,100 as compared with 342,100 in the previous year's period.

Data is based on expansion of that reported to NEMA's Statistical Dept. to cover total industry sales, including exports, it was explained.

BREAKDOWN BY SIZE

NEMA's Statistical Dept. also reported the following breakdown of percentage of refrigerator and freezer sales in each size group, compared to total sales, for the first three months of 1957:

Electric Household Refrigerators	
	%
7 cu. ft. and under	1.3
8 cu. ft.	16.7
9 cu. ft.	4.4
10 cu. ft.	11.9
11 cu. ft.	14.9
12 cu. ft.	28.9
13 cu. ft. and over	21.9

Total 100.0

Electric Farm and Home Freezers
(Includes 44.6% for chest and 55.4% for upright models.)

	%
8 cu. ft. and under	2.9
9-14 cu. ft.	38.6
15-17 cu. ft.	28.5
18-19 cu. ft.	14.0
20 cu. ft. and over	16.0

Total 100.0

Distributors' sales of refrigerators and freezers to dealers by states in the first three months were reported as follows:

States	Refrigerators %	Freezers %
Alabama	1.347	2.124
Arizona	.709	1.012
Arkansas	.763	1.408
California	9.959	5.629
Colorado	.884	1.123
Connecticut	1.421	.833
Delaware	.245	.263
District of Columbia	1.041	1.699
Florida	4.425	2.663
Georgia	2.204	3.240
Idaho	.239	.542
Illinois	6.813	5.561
Indiana	3.021	3.179
Iowa	1.282	2.367
Kansas	.982	1.191
Kentucky	1.472	1.925
Louisiana	1.785	3.554
Maine	.449	.495
Maryland	1.373	1.339
Massachusetts	2.691	.906
Michigan	5.347	4.358
Minnesota	1.528	2.839
Mississippi	.759	1.385
Missouri	2.670	4.241
Montana	.236	.366
Nebraska	.598	1.019
Nevada	.128	.101
New Hampshire	.279	.125
New Jersey	3.291	2.298
New Mexico	.289	.715
New York	11.305	4.827
North Carolina	1.834	3.133
North Dakota	.174	.770
Ohio	5.873	5.498
Oklahoma	1.134	.989
Oregon	.709	1.235
Pennsylvania	6.418	5.707
Rhode Island	.459	.085
South Carolina	1.038	1.565
South Dakota	.202	.673
Tennessee	1.317	2.776
Texas	5.045	5.866
Utah	.355	.342
Vermont	.164	.184
Virginia	1.446	2.280
Washington	1.278	1.927
West Virginia	.974	1.034
Wisconsin	1.946	2.495
Wyoming	.099	.114
Total U. S.	100.000	100.000

NEW!

Henry Abso-Dry®

Pressure Sealed Driers

U. S. Patent No. 2283989

Only a HENRY DRIER proves its dryness with a Hiss®

To obtain maximum drying efficiency, Henry thoroughly reactivates each drier and, by an exclusive, patented process of manufacture, provides positive indication, by pressure sealing, that the drier is tight, dry, and factory-fresh on reaching the user.

Complete Size Range—The complete range of types, capacities, and connection sizes permits the selection of the proper Henry drier for any installation.

STOCKED AND SOLD BY LEADING JOBBERS.

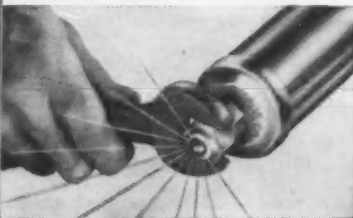
HENRY VALVE CO.

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Cable: Hevalco, Melrose Park, Illinois

VALVES, DRIERS, STRAINERS, AND ACCESSORIES FOR REFRIGERATION, AIR CONDITIONING AND INDUSTRIAL APPLICATIONS

"They Hiss and Tell"*



*TRADE-MARK

When the end connection seal of a new Henry drier is loosened prior to installation, there is a hissing sound due to the escape of dehydrated air.

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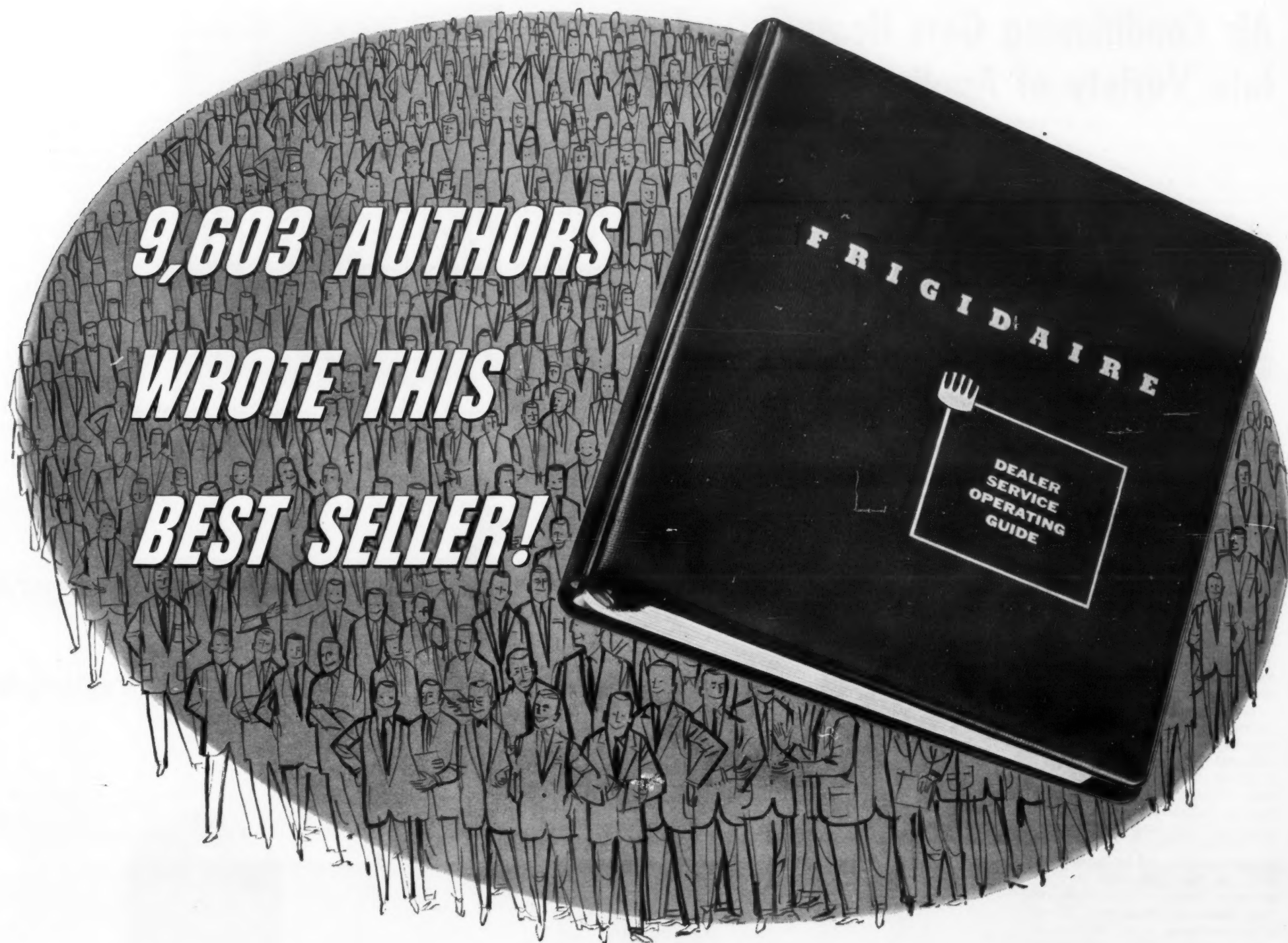
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- for plugging and caulking in
- Supplied in beads, tape or bulk

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Here's non-fiction at its most profitable best. Ten chapters—sixty-nine sub-headings—all on the subject of establishing and maintaining a successful Frigidaire service dealership.

No one man could have written this important guide for new and established service departments. Between these covers Frigidaire makes available the combined experience of nearly 10,000 successful servicing dealers. Here, in down-to-earth, easily understood language, are proven, time-tested methods and procedures, thoroughly backed up with factory know-how. Here, in one compact binder, are the facts of life for profitable service operation.

As important as this new Frigidaire Dealer Service Operat-

ing Guide may be, it is only a part of the continuing aggressive program through which Frigidaire helps dealers meet and keep the highest service standards in the industry. For example: more than 50 training programs, each tailored to fit a specific need, are kept up-to-date each year. In addition, Frigidaire supplies dealers with a wide variety of technical information including manuals, parts catalogs, parts lists, and informative *Tech Talk* publications.

A wealth of information? We think so, and so do the thousands of Frigidaire dealers who put this "know-how" to good use . . . developing better dealerships, building good will and increasing their sales of Frigidaire products.

IN SERVICE AS IN SALES . . .

FRIGIDAIRE is on the march



Frigidaire—Built and Backed by General Motors

Air Conditioning Gets Heating Dealer Into Variety of Application Problems

By C. Dale Mericle

FAIRVIEW PARK, Ohio—Advent of residential air conditioning has had some profound effects on all levels of the industry, some being obvious while others have perhaps not yet been felt. One of the obvious effects has been to broaden the activities of manufacturers, distributors, and dealers alike.

A case of the latter might be found in the Fairview Furnace & Sheet Metal Co., located in this suburb of Cleveland. A partnership headed by Donald Leavens and Michael Leiher, the firm has been in business for eight years. Both partners, though, had many years of experience in the field prior to organizing their own company.

Year-Round Jobs Pick Up

Much of their activities are straight heating and sheet metal jobs in homes, business places, and industry, but in the past three years or so year-round air conditioning jobs have played a more important role. While these haven't been limited to the residential market, the latter has accounted for many of them.

Here, too, there has been considerable variety. Three jobs, recently completed, serve to illustrate this point.

There is, for example, the year-round system Fairview Furnace installed in the model home of a new housing development in nearby North Olmstead. Known as the Maria Lane project, the tract consists of moderate to lower-priced homes and was built by Monson-Williams, Cleveland area home builder.

Air conditioning is offered as optional equipment in these homes, but Monson-Williams emphasizes in its advertising and promotion that the heating system is "engineered for air conditioning."

Perimeter Air Distribution

The air distribution design in these homes consists of a perimeter system fed by a trunk duct in the full basement. Baseboard registers are located on the outside walls with returns at the baseboard on inside walls.

Heating is provided by a Lennox gas furnace while cooling is supplied by a 2-ton Lennox air-cooled system—with remote condensing unit—in a separate cabinet.

Such jobs as this are pretty straight-forward, so the firm takes pride in some of its

"deluxe" jobs such as that installed in the custom-built home of Robert O'Brian in Rocky River, another Cleveland suburb.

This one has just about "everything"—air conditioning, of course, a deluxe gas furnace with three-stage firing, zones, and an electrostatic precipitator for filtering.

Cooled by Remote Unit

Heating unit is a Perfection furnace with a "Regulaire" blower to provide control over c.f.m. delivery according to heating requirements. Cooling is provided by a 3-ton Perfection remote air-cooled unit.

Air cleaning is handled by an

Electro-Air unit, the installers stated.

Two zones are provided in this job, one for the living area, and a second for the bedrooms. Adjustment of air delivery to these two zones is accomplished by manual dampers.

Because the basement area is used a good part of the time for recreation, Fairview Furnace provided a return air pickup at the floor of the basement. This is intended to prevent stratification of air, especially during the heating season.

Controls of the year-round system are so wired that when a switch on the thermostat is changed from "heating" to "cooling" a motorized damper

changes to by-pass air around the furnace.

Besides the "builder" and of this was the job done very "custom" new home market, recently in the Fairview Park Fairview Furnace also reaches

TYPICAL of the perimeter year-round air conditioning systems that Fairview Furnace & Sheet Metal Co. installs for builders in the Cleveland area is this 2-ton Lennox job with gas furnace in the Maria Lane development of Monson-Williams.



Jenni Genetron says:



MIGHTY MITE
MOTOR PROTECTORS

FOR MOTOR OVERLOAD PROTECTION

MECHANICAL INDUSTRIES PRODUCTION COMPANY
223 ASH STREET • AKRON, OHIO

UL



MORE elaborate systems usually go into custom-built new homes such as that of Robert O'Brian in Rocky River. Here Michael Leiber and Don Levens, partners in Fairview Furnace, check adjustments on motorized damper.



EXISTING HOMES with forced air heating systems represent a good market for addition of cooling, but in the Fairview Park home of Leonard Frost, Fairview Furnace replaced an old oil-fired unit with a modern year-round air conditioner which takes up only a third of the space, as the base of the old unit indicates. Here Ralph McGue of Fairview Furnace is installing the vent pipe.

Applications - -

(Concluded from preceding page) home of Leonard Frost, an attorney.

Here it was not just a case of adding a cooling unit to an existing furnace but one of replacing the furnace with a year-round conditioning unit, as well as adding a small second heating unit.

A Moncrief 140,000 B.t.u. gas furnace combined with a 3-ton remote air-cooled unit was installed in place of an existing oil-fired forced air furnace. Even though the latter was of comparatively recent vintage, the new combination unit permitted a remarkable saving in floor space, occupying only one third the area the old furnace required.

Recommends Two Units In Big Homes

For large homes Fairview Furnace usually recommends two heating units as the most economical way to achieve full comfort.

For the Frost home a 50,000 B.t.u. Niagara gas furnace was installed in the garage. While it does provide heat for the garage, its main purpose is to heat a good sized recreation area that has considerable glass exposure—two walls, in fact.

Screens are substituted for the glass in summer, turning the recreation room into virtually a patio with roof.

The extensive glass area of this room would prevent a considerable heating load which the room's attractive fireplace couldn't satisfactorily offset, and which would require the large year-round unit to operate often perhaps when the rest of the house didn't require heating. The separate small furnace overcomes that problem in a simple manner.

Mathes Associate Mfr. To Open Ark. Branch

LITTLE ROCK, Ark. — Comfort Air Conditioning Co., which has been in business at Pine Bluff for 12 years, will open a branch office at Little Rock.

C. E. Jones, general manager of the company, said Comfort was an associate manufacturer for the Mathes Co. Under the arrangement, Comfort does the assembly work and installation on commercial contracts and also supplies room units to jobbers.

Jones said plans called for the opening of a warehouse.

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UL MASSIVE DEPTH FILTERING!

FILTER-DRIERS

Super-Flo's massive fiberglass depth filter and a molded drying element increase foreign matter, moisture and acid removal. Write for low prices.

AVAILABLE TO THE TRADE THROUGH WHOLESALEERS EVERYWHERE

REMCO INC.
ZELIENOPLE, PA.

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)

"I don't believe it."

"That's what the man said," divulged Rommel blandly. "Richards told me my decisions made him ill."

Burleigh Grimes shipped a young pitcher to a farm club in the Southern Association. After giving him a trial, the southern manager telegraphed Grimes:

"Kid pitcher too green for us."

Return-wired Burleigh:

"Paint him and send him to Elmira."

Well, You Can't

Beat the Hours

Well-to-do Alvin Crowder, who pitched for Washington and

Detroit in the 1930's owns valuable business properties in Winston-Salem, N. C. It wasn't his baseball salary which made him rich, though. Crowder had another talent.

When Detroit manager Mickey Cochrane was about to give him an unconditional release, Crowder begged:

"I'll play ball for nothing, if I can play poker with this club for just one more year."

Uniform salesman checked in with the Yankees at their Florida base in April of this year.

"What size cap do you wear?" he started out with Berra.

"How should I know?" rapped the Yogiman. "I'm not in shape yet."

Before player Casey Stengel moved up to the Dodgers, a Brooklyn scout reported:

"Stengel is the world's great-

est ball player, from the neck down."

There was an appraisal which went wrong!

Jimmy Cooney and John Neun committed unassisted triple plays on successive days.

More than 30 years have elapsed since those feats, and not one man has emulated them in all that time.

Like Shoeless Joe Jackson and Yogi Berra, Smead Jolley was an instinctive hitter. Rookie asked his advice.

"Should I keep both feet even with the plate, Mr. Jolley, sir?"

"Kid," Smead dismissed, "don't be superstitious."

Another Babe Herman?

According to scout Paul Mullins a sandlot kid was signed and sent to a Class D club,

where he murdered every type of pitching.

After six games he was hitting .461, and had knocked in 20 runs. But he had booted in almost as many runs as he'd batted home. His manager tried him at third, second, first, the outfield . . . everywhere he committed glaring errors.

"Don't know what to do with you, son," declared the manager. "I need that big bat of yours, but wherever I try to hide you in the field the batters seem to find you."

Brother Acts

Although there have been several brother combinations in baseball, usually it is agreed that the DiMaggio act topped them all.

Each was a centerfielder of incomparable skill. Vince, the oldest (second to make the big

time) could hit a ball far as middle brother Joe, and farther than Dom. Vince's chief claim to fame, however, was his whiffing. He holds the major league record for strikeouts in one season with 134.

All three DiMaggios began their baseball careers with the San Francisco Seals. When Vince pleaded with the front office to take a look at frater Joe, not only did the management like the latter's looks, but Joe took over Vince's job (and went on to the Yankees and into the Hall of Fame). Little brother Dominic then showed 'em he could do it, too—although one scout complained "he hits only singles."

Detroit's Frank Lary is one of seven ballplaying brothers, as is Ken Boyer of the Cards.

Five Delahantys made the big show—Ed, Frank, Jim, Joe, and Tom. Best of these was right-hand slugger Ed. Coming up before the turn of the century, he twice bettered .400 and concluded 16 years under the big top with a lifetime batting average of .346. He had no trouble making the Hall of Fame.

Oldtimers aver that the best brother act in baseball was the small, wiry Waner duo—Paul (Big Poison) and Lloyd (Little Poison). Could they hit! Paul joined the Pittsburgh Pirates in 1926 and swatted .336. Little Poison came on the following year, and bashed a remarkable freshman average of .335. By that time Big Poison was hitting .380.

Hard-drinking Paul averaged .333 during 22 years in the majors, and easily made the Hall of Fame. Rule-observer Lloyd belted .313 in his 21 years in the big time.

Paul also gained admission to the exclusive Three Thousand Hit Club. Other members: Ty Cobb, Cap Anson, Eddie Collins, Nap Lajoie, Tris Speaker, and Honus Wagner.

Another brother group: the O'Neills—Jim, John, Mike, and Steve. Best, of course, was Steve, a longtime Cleveland catcher, and later a big league manager for many years.

Deans of the Family

Possibly the most colorful siblings to electrify the majors were the pitching Deans of the St. Louis Cardinals, Dizzy and Paul. Just before the 1934 season opened, when the Galloping Gas-Housers swept to the pennant, always modest Jerome twanged:

"Me 'n' Paul'll win 45 games this year. He slightly underestimated "Me 'n' Paul's" prowess. Diz won 30 while his brother was tucking away 19 for a total of 49 for the Dean Brothers.

Other fraternal combinations included Jess and Virgil Barnes, who pitched for the Giants at the same time; Mort and Walker Cooper, who formed a renowned battery with the Cards; and the Ferrells, Wes and Rick—a great battery for the Red Hose. The Meusel brothers (Irish of the Giants and Bob of the Yankees) were World Series foes, as were the Johnstons—Jimmy of the Dodgers and Doc of the Indians.

Upcoming is a new brother act—the sensational McDaniels—kid pitchers for the St. Louis Cardinals.

WOLVERINE SERVES THE REFRIGERATION INDUSTRY...



Light wall commercial copper tube manufactured by Wolverine Tube provides refrigeration and air conditioning manufacturers with the answer to two problems: ECONOMY and SERVICE.

Because of its thinner walls, this tubing is lighter in weight—gives more tubing per pound. Because it is the product of Wolverine Tubemanship, it provides maximum service with top performance. Wolverine light wall commercial copper tube is clean, bright and dry—is rigidly quality controlled to insure wall thickness and diameters that meet the toughest specifications. It is available in straight lengths and coils in light annealed, soft annealed, and standard drawn tempers of 1/4 hard, 1/2 hard and full hard. Special tempers are also available.

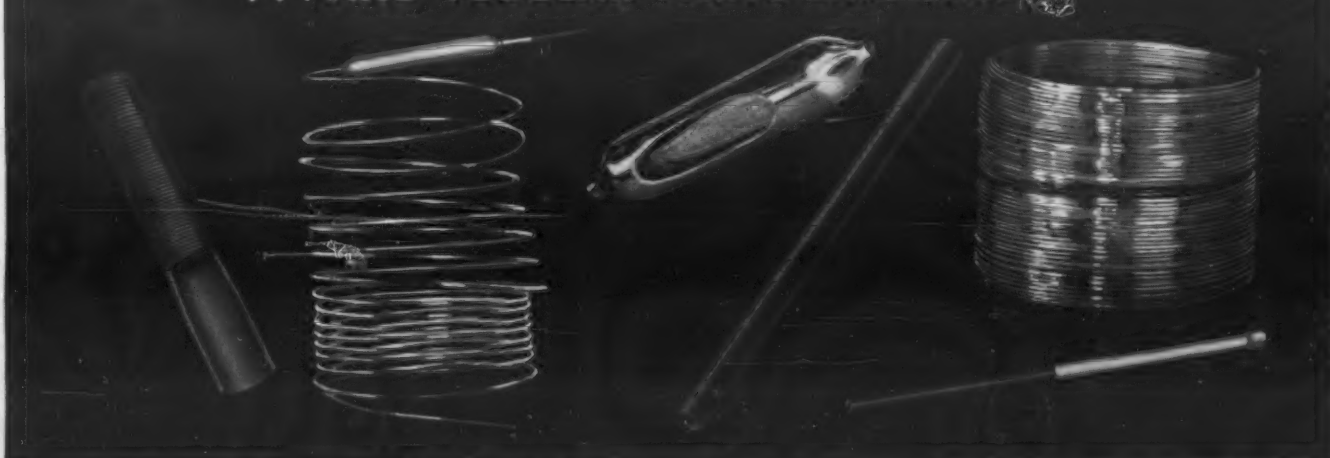
Illustrated below are other products Wolverine Tube manufactures and fabricates for refrigeration and air conditioning use. You can specify all—or any—secure in the knowledge that no finer tubing is made. For more information write for our new book Wolverine Serves the Refrigeration Industry. Do it TODAY!

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PLANTS IN DETROIT, MICHIGAN, DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.
EXPORT DEPARTMENT, 13 EAST 40TH ST., NEW YORK 16, NEW YORK

... AND TUBULAR PARTS LIKE THESE



Creech Heads New Westinghouse Service Div.; To Push a Service Functions

MANSFIELD, Ohio—W. B. Creech, formerly manager of major accounts, has been named manager of the newly created Westinghouse appliance service division.



W. B. Creech

John W. Craig, Westinghouse vice president and general manager of the Electric Appliance Divisions, announced Creech's appointment and creation of the division concurrently. He said headquarters of the new division will be located here.

Within the Electric Appliance Divisions, the other divisions are major appliance division, portable appliance division, and refrigeration specialties division, he noted.

"To the dealer, good service means more sales," Craig said. "The new division's objective is to help dealers (and Westinghouse) build more sales through better service."

"By setting up service as a separate division, Westinghouse is recognizing the increasingly complex service problems dealers have as the number and type of appliances increases. This complexity will continue as engineers devise still more appliances to make household chores easier."

Elevation of service to divisional status, Craig explained, organizationally means giving service a stronger voice in product design, standardization of parts, quality control, and other industrial functions.

At the same time, he said, the new division will continue but strengthen regular service department functions like parts availability, product information and service training for dealers and authorized independent service organizations.

New Evansville ASRE Officer Slate Named

EVANSVILLE, Ind. — New officers of the Evansville Section, American Society of Refrigerating Engineers, were installed recently.

They are: Chairman, James F. Dewey, Whirlpool Corp.; first vice chairman, J. C. Kellner, Jr., Servel, Inc.; second vice chairman, R. P. Garvey, Whirlpool; secretary, R. E. Deaux, Servel; treasurer, E. M. Tatman, Alcoa.

The installation was made by retiring chairman John M. Wellborn of Whirlpool as the section completed the 1956-57 season with its annual ladies night dinner-dance. Monthly meetings will resume in September.

Under Creech, the new division will operate the Westinghouse renewal parts depot in Newark, Ohio, 35 miles south of Mansfield.

Internally the division will break down into six major departments. These will be major appliance, refrigeration special-

ties, and portable appliance service; renewal parts, the field service organization, and an operational department covering claims, warranties, policies, and supervision of the company's three reoperation shops in Newark, N. J., Chicago, and Emeryville, Calif.

Creech joined Westinghouse in 1929 as an electric range specialist in the southeastern district. In February, 1931, he made the first introduction of Westinghouse refrigerators in

the south. Later he was named sales promotion manager for the southeastern district and in 1940 was appointed southeastern district manager of the Appliance Div. with headquarters in the Atlanta office.

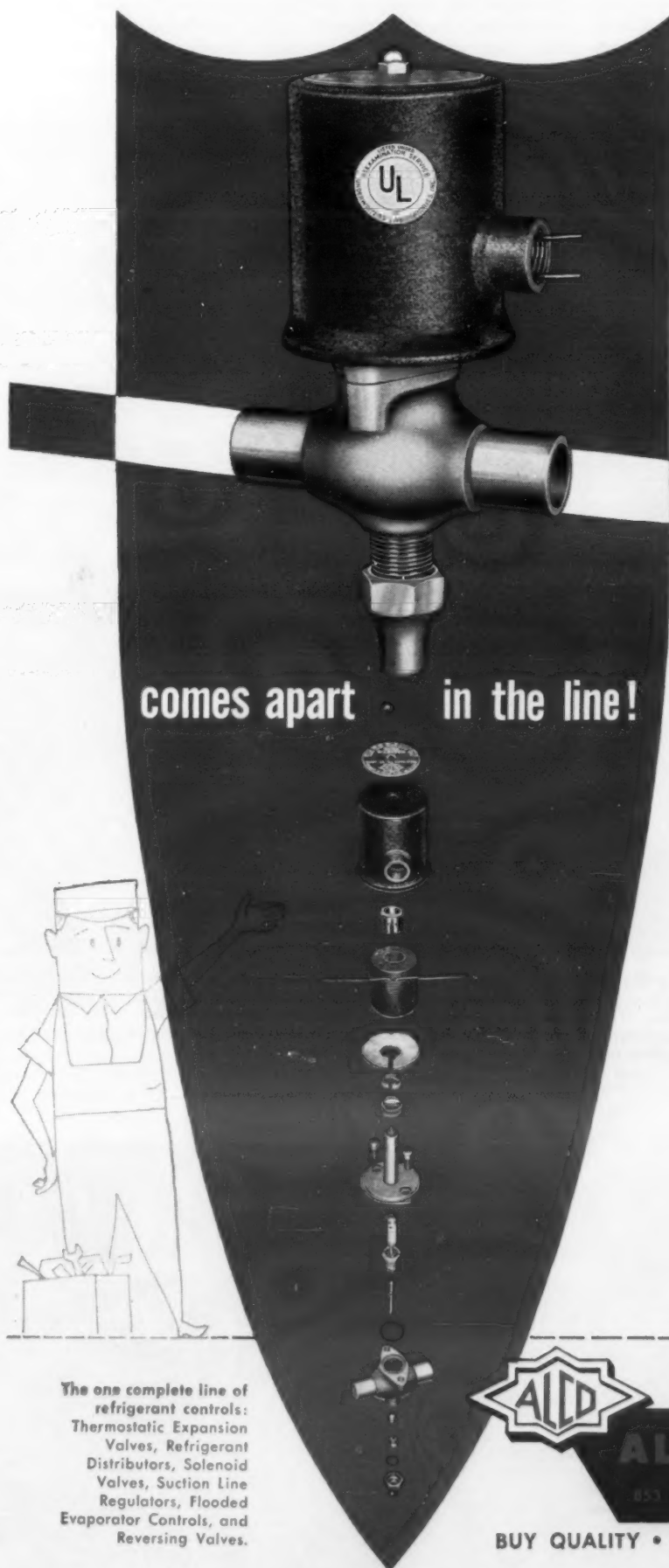
He was sales promotion manager at Birmingham, Ala., when the present southeastern sales district was two districts. He was transferred to Atlanta, present headquarters, in 1939.

In 1950 he joined the headquarters staff of the appliance

division as manager of marketing and in 1954 he was made assistant division manager. Last July he was named to his present position. Since 1954 he has had responsibility for administrative supervision of all service operations.

To Cool Hospital

MEMPHIS—Plans are in progress for an air conditioning system for city-owned John Gaston hospital. Estimated cost is \$500,000.



guard against
call-backs...
install Alco
solenoid valves

Alco Solenoid Valves are rigidly tested to assure you of one-trip installation, long trouble-free service and a minimum of maintenance. Alco is your best choice for any solenoid application.

- 1— Compact size, easy to install.
- 2— Comes apart quickly for inspection, cleaning and service—without breaking electrical or line connections.
- 3— Cool, high-powered coil built by Alco of finest materials, under strict quality control.
- 4— Coil impregnated 3 times, baked a total of 18 hours by Alco for triple protection against moisture and burn-out.
- 5— Only two working parts, of corrosion-resistant stainless steel.
- 6— Kick-off spring for positive closing. Bubble-tested seating for positive shut-off.
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Air Conditioning: 'Imperative In Year-Round School Plan'

OSU Head Suggests 12-Month School Term In Conditioned Bldgs.

COLUMBUS, Ohio—The incoming president of Ohio State university here spoke out for air conditioned school buildings and "conditioned" communities in his inaugural address recently.

Dr. Novice G. Fawcett, former superintendent of Columbus schools, referred to a 12-month school term as a "suggestion for study" in meeting oncoming enrollment increases.

Air conditioning "always comes up" when the idea is mentioned, Dr. Fawcett said. He bases his increased school term suggestion "on local acceptance."

"We talked about putting the basic vents in for air conditioning our new buildings in the city system," he noted, "just as we are doing at the university."

He explained that the whole idea would involve a nine-month school term for youngsters as it is now, but with the terms staggered, probably on a quarter system. Teachers would be employed to work the full year.

Dwight A. Swisher, veteran local school board member, said "it would be quite a revolution." He added that air conditioned buildings would be "almost imperative" under the new plan and beyond that, "pupils who were willing to go in the summer and parents who were willing to send them."

Dr. Fawcett declared that, while advantages and disadvantages would have to be weighed, "there is no reason the 12-month plan shouldn't be studied."

To Air Condition Rooms, Offices In Fla. Hospital

PLANT CITY, Fla.—According to Administrator Bert Davidson, directors of the South Florida Baptist hospital have approved plans to install air conditioning equipment in parts of the building.

Davidson said 18 rooms for patients will be equipped with units on the north side of the structure, with six units to be installed on each of the second, third, and fourth floors. Business offices on the first floor also will be air conditioned.

Davidson said the estimated cost of the equipment and installation is \$8,800, and that the project will be paid for out of Ford Foundation funds, which are restricted to hospital improvements.

Educator Pushes Television for Schools; Thinks Origination, Receiving Rooms Should Be Cooled

NEW YORK CITY—A lift was given for increased use of air conditioning equipment in schools by a recent report of the Ford Foundation's Fund for the Advancement of Education.

Prepared by Dr. Alexander J. Stoddard, former school superintendent in Bronxville, N. Y., Schenectady, N. Y., Providence, R. I., Denver, Philadelphia, and Los Angeles, "Schools for Tomorrow: An Educator's Blueprint" states that "no junior or senior high school should be built without television, and air conditioning the ori-

gination and receiving rooms is desirable."

After visiting 72 communities in all sections of the country, Dr. Stoddard believes new schools should consist of several large rooms, seating from 200 to 500 students each, equipped with television apparatus, be properly soundproofed, and contain all other aids to large group instruction available today.

Meanwhile, the 83rd annual convention of the American Association of School Administrators, a department of the National Education As-

sociation, recently devoted some time to discussion of the use of school buildings year around.

Up to now, generally, educators have opposed a year-round school program. Now, under pressure, they are willing to review the pros and cons of the issue.

Members of the air conditioning industry, it was pointed out, are interested in a year-round school program because it offers a new market for equipment. Utilities realize the need for high load factor all year to operate profitably.

300 Ward Stores Now Offer Auto Cooling

CHICAGO — Montgomery Ward & Co. planned to carry auto air conditioners in more than 300 stores this year.

Units will be available in stores as far north as the Mason-Dixon line and wherever there is a demand farther north. Last year, only 100-125 stores offered auto air conditioning, mainly in Oklahoma and Texas.

The air conditioners will not be offered through Ward's catalogs, as the company feels installation should be made in their own shops, according to A. M. Richards, divisional manager, auto equipment.

The dash-mounted unit has been retailing at \$289.88 and the rear-deck model at \$359.99, including installation, it was reported.



APPLICATION LABORATORIES are called "the customers' labs" at Redmond because here the motors are especially developed for specific customer applications. This photo was made in the induction motor applications laboratory where applications are made for every major industry including air conditioning, ventilating, heating, refrigeration, and appliances.

Redmond Tells How Motors Are Developed

A VISITOR at the Redmond Company's main plant in Owosso, Michigan, will find the complete engineering facilities that enable Redmond, a leading manufacturer of fractional horsepower electric motors, to function as the engineering department of their customers. As James W. Tweedy, President of Redmond, puts it, "We serve as the small motors division of our customers."

Several dozen engineers at Redmond are kept busy with design and application activities. Some of these men are working continually to develop the motors that meet the demand for more horsepower in ever smaller and more economical packages. Two of these new motors recently developed at Redmond are the AL-4 induction MicroMotor and the AM-4 single bearing MonoMotor.

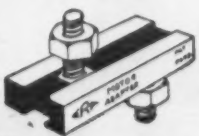
This kind of engineering work requires complete facilities with the



CHAIRS are a typical example of the rapidly expanding markets for fractional horsepower electric motors. Here an engineer in the special products engineering laboratory is installing an actuator motor developed for a chair.

MOTOR BASE ADAPTERS Sell Many Other Items

Keep them in stock. Servicemen will pick up adapters and motors, carry them in their cars, and complete service on the job in one call. Eliminates delay of having motors away for rebuilding. Adapters are easy to install, fit any base. No motor shaft too long or too short. They also bring you more sales in motors, belts, pulleys, controls, etc.



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Problem In Using Reheat System for Summer Cooling Viewed

Suggest Undersizing Condensing Unit for Constant Use; Installing Time Relay Switch To Turn Off Blower Until Condensate Drains Away

MIAMI BEACH, Fla.—“Controlling Summer Cooling Cycles To Provide Optimum Comfort Conditions Without Using Reheat” was the subject of one of the “forums” held during the recent annual ASRE meeting, and a number of methods of accomplishing this objective, plus a discussion of some of the problems involved, came out of the forum session.

In these forums, the participants speak freely on any phase of the subject, and there is no mention of any individual's discussion in any report.

Basis of Problem

Basis of the problem, as put before the forum, is that while

a reheat system will provide highly satisfactory temperature and humidity control, there is a cost factor involved, and this may serve to prevent any widespread use in residential air conditioning systems.

Some of the suggested alternate methods, and contingent problems, discussed during the forum, including the following points:

Assures Constant Dehumidifying

Undersizing the condensing unit so that it will run practically all of the time, thus assuring a constant dehumidifying effect, with a gradual temperature rise that might go above

the optimum dry-bulb temperature under extreme outside temperatures.

A properly sized condensing unit will hold the dry-bulb temperature at the proper point, but the problem with the modulating coil temperatures and off cycles is that of whether or not the dewpoint temperature will be approached and proper humidity control ever achieved, according to some of the participants in the forum.

Another possible solution suggested was the use of a time delay switch which would turn off the blower until the condensate had drained from the coil, thus preventing the re-evaporation of that moisture which would

increase the relative humidity. The recommendation was made that the blower be off not more than 5 minutes.

Will Coil Drain In 5 Minutes?

But will the coil really drain in that period of time, was the question asked. A further question was raised as to whether or not the treating of the coil with non-wetting material would speed the drain-off.

Some participants favored as the means for maintaining optimum conditions in a residential installation, the use of a two-stage compression, two-circuit system using a split coil.

Use 'Tail Water'

With water-cooled systems, said one forum participant, use of the “tail water” from the condenser can be an effective and cheap method for reheat,

less costly than an air by-pass method.

In the discussion of the various possibilities, most of the debate centered around the use of the undersized, constantly running condensing unit.

One Criticism

One of the principal criticisms leveled at this method was that it doesn't provide a fast enough pulldown of a warm house, that it won't get the kind of “cooling action” desired by the user, and thus can result in dissatisfaction.

One forum participant said that “I personally favor the undersized unit method, but I'd be afraid to sell it.”

A participant who said his own home was air conditioned with an undersized unit declared that on days during which the house was not occupied, the thermostat was set at 80° F. upon the occupants leaving. On return of the occupants in the late afternoon, the thermostat setting was lowered to 76° F., to handle the heat build-up accumulated through the day. In the early evening, it was lowered to 72° to handle the peak accumulated load and to provide dehumidification.

What Are Optimum Conditions?

A debate also was waged on just what constitutes optimum conditions? Some said that it could be as high a figure as 76° F. dry bulb with 50% relative humidity, but others declared that this wouldn't provide comfort for too many people.

The point was also made that in air conditioning a place in which there will be a number of people involved, you must work out a “comfort range” that will be satisfactory to most. But in a private home, it was pointed out, you have to please at least one of two people.

Another Problem

Another problem in achieving comfort conditions is that in builder-installed air conditioning, the tendency is to “go cheap” all around, making the problem a difficult one. For this reason, a campaign to “educate” builders on air conditioning requirements was recommended.

latest equipment. For example, Redmond's modern chemical laboratory is used for making humidity and rain tests, as well as tests on insulation, plating, and paints. In the complete model shop special motors and parts are made.

In the applications laboratories Redmond engineers are continually striving to provide the best, most efficient, and most economical motors to fit the applications of the customers. The units to which motors are being applied are generally brought right into the laboratories, where Redmond engineers develop exactly the most efficient and economical motor to do the job. In these laboratories motors are being applied to a tremendous range of products. Some of these applications are the familiar ones of air conditioners, business machines, taperecorders, furnace blowers, kitchen ventilators, and window fans. Other typical applications that illustrate the ever-expanding market for electric motors are car seat adjusters, lawn-mower starters, can openers, bilge pumps, egg washers, shoe buffers, and vending machines.

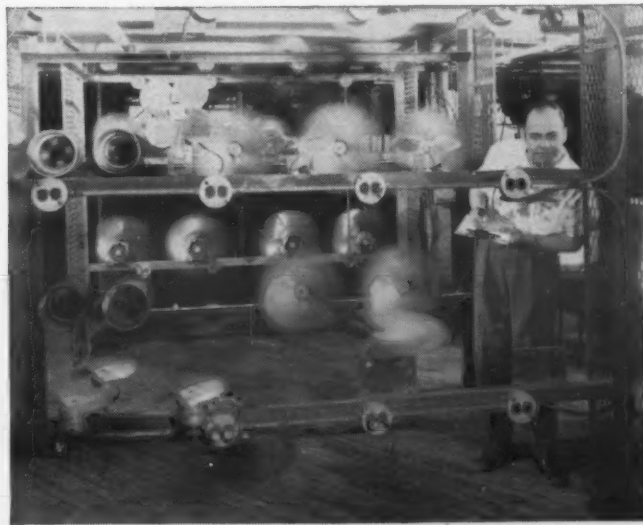
The Redmond Company, “The Big Name in Small Motors,” has the engineering facilities with which to maintain its position as a leader in the design, application, and manufacture of fractional horsepower electric motors.



GENERAL SALES MANAGER of Redmond, M. J. Koenig, left, is also an engineer. Here he is checking on the progress of a starter motor in the special products engineering laboratory. Some of the other units in the picture are blenders, mixers, pumps, and buffers.



ENGINEERING RESEARCH AND DEVELOPMENT laboratory is looked on as the “company” laboratory, for here motors are continually being developed that meet the modern demands for motors that are smaller, yet more powerful, lighter in weight, and quiet in operation.



LIFE TEST ROOM contains motors that have been running continuously for many years in different positions, at different speeds, and under different loads. In this room there are also ovens to test and evaluate high and low ambient lubricants and lubrication systems. As model changes occur, all new motors immediately take their place here to be life-tested.

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"The mass of people must be barbarous where there is no printing, and consequently knowledge is not generally diffused. Knowledge is diffused among our people by the newspapers."—Sam Johnson, *Boswell's Life*, March 31, 1772.

the comfort he realizes through temperature and humidity control.

This throws a challenge to all the engineers in our industry—in the field as well as in the factory—to give people the *total* comfort they demand.

This "Hobson's Choice" dilemma lessens in consequence, concomitantly with the area to be conditioned, of course. In commercial and industrial installations, decibel output isn't so important as is the floor space which might be required for larger "muffled" equipment.

Depending on the noise level of the surroundings, quietness of air conditioner operation in stores and factories may not be so urgent as it is in the case of dwellings. Yet here also, we feel, our industry has missed a good bet on its future. If it conquers its own problems of decibel control, air conditioning *inherently* could be a noise-reducer everywhere it is installed, because it screens outside racket.

For many years this editorial page has maintained that higher labor productivity, and reduced union troubles, would result from factories and stores in which infernal dins had been lessened and ameliorated. What these high-noise-levels do to human nerves is a caution.

Air conditioning can help do this job, if and when it gets its own house in order.

There are many signs which point toward better awareness of the noise problem—and a genuine approach to its control and solution. Included among these signals are growing recognition by marketers of consumers' demand for silence; the ASHAE laboratory program; a newly authorized standards program of ASRE and ASHAE to measure equipment noise, and considerable amount of discussion and ferment behind the scenes.

All such precursor movements could result in interesting action reasonably soon—we hope. Thereafter the air conditioning industry will be in better position to compete for consumer dollars.

In residential, commercial, and industrial air conditioning, then, our slogan should be:

Quiet, Please!

Little wonder the historical novel is so popular. Take five cents worth of garbled fact, add a muscular moron in black tights and an unattached girl with the neckline elevated slightly higher than her moral sense, pad for 400 pages and you've got four bucks worth of book-club bait.—RONALD COLEMAN.

They'll
Do It
Every
Time

by

Jimmy
Hatlo



'Quiet, Please,' Is the Cue For Air Conditioning

(Concluded from Page 1)

won't have to look at it, take care of it, or pay for it.

Engineers will throw up their hands and say that these consumer demands not only are impossible, but mutually exclusive.

Take, for example, those topmost desires for inaudibility (silence) and invisibility (compactness). One defeats the other, *per se*. As an analogy, consider autos. The tiny, high-output English cars (MG, Jaguar) are excessively noisy whereas the huge and overexpensive Rolls-Royce has achieved near-silence of operation.

Same deal with air conditioning. Which do you want: relative silence with bulk and high cost, or tiny machines which are noisier and could be even more expensive? Engineers will tell you a choice must be made in terms of window units, at least. You can't have both, they argue.

With respect to the dilemma of noise and size, such a contradiction may not necessarily exist in the long run. But, in order to resolve it, a completely new look at the approaches to design may be required.

Principal present difficulty could be that some engineers have attempted to reduce size without going through the slower and longer-term process of research into the basic problems involved.

Noises an air conditioning user may hear (and dislike) come from these sources:

1. Mechanical vibrations of parts within the compressor can be transmitted by the compressor housing directly to the air, and thence to the ear. They also can be transmitted through compressor mounts to the structure of a unit, thence to the cabinet or ductwork—to the ear.

2. Mechanical forces produced by pulsating torques in a reciprocating compressor, or by unbalance in rotating parts, are transmitted to the compressor housing (and through the mounts) to the cabinet. These forces set up sympathetic resonant vibrations of panels, duct sections, accessories, and even pictures on walls.

3. **Gas pulsations caused by piston** and valve action create sound vibrations. All passages within the hermetic compressor, suction and discharge lines, part of the condenser, and part of the evaporator, are culpable. If the gas vibrations encounter a

pipe length or other cavity which is tuned to one of the frequencies present, an organ pipe effect takes place and the noise gets louder.

4. Sound produced by the rushing of air through coils, ducts, and passages within the unit, plus noise produced by the fan, are hard to handle—because they link into a direct air path between the point of origin and the listening ear.

Mechanical vibrations are easiest to render harmless. Better fits of mechanical parts and better balancing of rotating parts help. Inherent pulsating forces can be damped out with resilient mountings and self-compensating inertia systems. It is important to cancel out these forces as close to their source as possible. The fewer parts involved, the less complex is the problem, and the easier it is to isolate the remaining energy.

Gas vibrations present a more complex problem because the characteristics of gas change from time to time with temperatures and pressures. Also, pipes and cavities do not behave like a simple organ pipe in their response to sound. Several steps are necessary to dampen this type of sound—first of which is to "tune" all the spaces in a gas system so that they will not resonate to any of the many frequencies generated.

Next comes an attempt to keep gas vibrations near the source by using mufflers to prevent most vibrations from reaching the pipes, evaporator, and condenser. Some of the sound still will be radiated, however, and must be prevented from reaching a customer's ear by isolation and insulation.

Sound barriers which break-up, lengthen, and complicate the air path between the point of origin and the ear provide isolation. Insulation absorbs sound on inferior surfaces of isolation barriers, unit cabinets, and ducts. Air rushing noise can be reduced by eliminating the turbulences which cause it. Good fan design as well as smooth transitions and air flow passages help.

The above may be a bit confusing, but so is the problem—to say nothing about the staggering technical problems of computation, analysis, and test. However, when a customer pays his money to receive the benefits of air conditioning he wants to be through paying. He should not have to pay year after year in auditory discomfort for

'Keep Merchandise Alive'

Refrigeration, Pre-Packaging Deemed Vital In Selling Fresh Produce; Urges Proper Humidifying Equipment

CHICAGO—Top food store management should give the same generous attitude to the produce department in the purchase of equipment as it does to most meat departments, Harold Kline, produce supervisor for W. W. Wilt, Inc. supermarkets in Elkhart, Ind. declared here recently.

Addressing the 58th annual convention of the National Association of Retail Grocers of the United States, Kline asserted that "our produce department is the one place in our store where the merchandise is alive and it is up to us to keep it alive all day long."

"Let's sell it fresh, with the protection of refrigeration where needed, and the pre-packaging method of merchandising."

'If We Don't Do It Someone Else Will'

"If we don't try to do this sincerely to the best of our ability, some one else will and then watch where the customer will buy her produce."

Kline outlined to the grocers what he considered to be the necessary refrigeration equipment for a modern produce department.

3 Different Types Of Coolers Needed

In the back room, he suggested three different types of produce coolers to give produce maximum back room life expectancy.

One is refrigerator space for wet-type green vegetables that works under load at 34 to 36° F. and maintains a constant humidity of 95 to 100% and never less than 95%.

"Every refrigerator, even of the most modern type, is a potential produce killer by reason of the serious dehydration it automatically creates on merchandise," he asserted.

"Proper humidifying equipment to eliminate weight loss is strongly recommended."

"The green vegetable family is the real victim of the unseen killer 'dehydration' which can take from 3 to 10% of weight out of fresh vegetables in surprisingly few hours."

"Our vegetable cooler is capable of being held with an approximate 95 to 100% humidity factor. The weight loss is amazingly light on a few items to no loss at all on the majority."

Dry Cooler for General Produce

"Additional refrigerator space for general produce is a 'must' in the modern supermarket. This cooler is commonly known as a dry cooler by contrast to the wet cooler."

"This cooler, too, needs an operational range of 34 to 40° F. Here we maintain a humidity ratio of 75 to 80% for the proper welfare of most dry-type produce to be stored."

"There are, of course, several items of produce that will suffer cold exposure at 34 to 40° F. Therefore, we need our third cooler. Here we store our bananas, tomatoes, sweet potatoes, dried fruits, melons, pineapples, limes, avacados, and any item that needs slow ripening."

"This cooler is temperature controlled at 52 to 58° F. both summer and winter. Here we have a humidity ratio of 80 to 85%."

"This cooler offers ideal con-

ditions for egg plant, cucumbers, lemons, okra, and all berries, except cranberries.

"Only eternal back room vigilance against careless methods at that level will insure

maximum customer acceptance at the produce department sales level. Produce coolers and back-room arrangements, after produce is received, is an operation of vital importance."

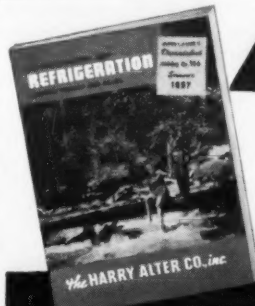
Now, what about produce display?

Kline said the Wilt store he pictured in slides shown to the audience had a produce department that runs 92 ft. along one side of the sales floor. This includes 72 ft. of refrigerated

cases which may be serviced from the rear and 20 ft. of double deck potato and onion display.

"These display cases have unusual display capacity," Kline said. "We purposely eliminated the glass mirrors used in most stores. They are costly and keeping them clean was another expense we wished to omit."

"We have reduced crates, carts, and stock clerks on the sales floor during heavy traffic."



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and
Supplies

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DESIGNED SPECIFICALLY
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For years, research and experience in the fresh food storage field have emphasized that most fresh food can be kept in salable condition for considerably longer time when stored at 30° to 32° with a minimum variation of temperature and humidity. The new "F" THERMOBANK provides, for the first time, an economical refrigeration system for fresh food at the 30° to 32° level and it embodies all the valuable features of the THERMOBANK re-evaporative hot gas defrost system that have made THERMOBANK the standard of the industry.

LIFE OF FRESH FOOD EXTENDED

With the old "off-cycle" defrosting, there are continual wide temperature and humidity fluctuations and it is not possible to maintain temperatures below 35°. The new "F" THERMOBANK eliminates "off-cycle" defrosting and maintains constant temperature and humidity by operating with the fewest possible defrost periods of the shortest possible duration; "F" THERMOBANK means less waste, longer shelf life, less dehydration, less mold and bacterial infection and retention of "freshness" during storage.

"F" THERMOBANK COSTS LESS

Because the "F" THERMOBANK guarantees rapid and complete defrost, equipment is safely selected for 20 hours operation. This results in the selection of a smaller THERMOBANK system and a smaller compressor giving low first cost and economical operation.

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TRENTON 5, NEW JERSEY

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OPENS

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IN

REFRIGERATION

OF

FRESH FOODS



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In Zinc-plated Steel and Everdur. All sizes. Insulating bushings available. Top quality. Permit quick wiring. Send for literature.

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43 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

For more information about products advertised on this page use Information Center, page 22.

Tracey Says 'Sell the Specialty'

Dealer Who Advertises, Sells Specialty Items Will Make Money In Room Units; Approach Receives Favorable Reaction

CHICAGO—Sell the specialty. This is the suggestion of Mitchell Mfg. Co. for selling room air conditioners in today's highly - competitive appliance market.

"The dealer who advertises and sells the specialty items in his line is the dealer who will make money in the room air conditioner business," says E. A. Tracey, general manager of Mitchell's room air conditioner division.

'WAS-IS' ADVERTISING 'PRODUCES SMALL PROFITS'

"Super - competitive 'was-is' advertising may result in a splurge of sales for a given period only—and usually at a small profit, if any, to the dealer. The specialty type of advertising, preferably with no price mentioned, creates desire and its true worth can be measured only in the number of units sold over the season," Tracey said.

CITES EXAMPLE

As an example, Tracey cited the Jos M. Zamoiski Co., Washington, D. C. distributor of Mitchell room air conditioners.

He said Zamoiski is featuring three of Mitchell's "specialty" room coolers in a series of distributor ads with no prices mentioned.

Mitchell's "Casement Model" was featured in the initial ads; with the "2-Ft. Narrow Power-Pac" and the "Roto-Cone Cool-

ing" pictured in the lower half of the ad. Special mention also is made of the 115-volt plug-in models.

These specialties will be in each of the ads during the season in the *Washington Post*, the *Evening Star*, and the *Daily*

News, it was pointed out.

This approach has received favorable reaction from dealers and consumers alike, according to Millard B. Fleischer, sales manager of the Zamoiski company.

"These ads give appliance

dealers a rallying point around which to run their own promotions on the units. Reprints of the ads were sent to every appliance dealer in the city to use as promotional pieces. We will continue with our policy of featuring the specialty items and not mentioning price in our ads," said Fleischer.

'EASIER TO SELL AT DECENT PRICE'

Adds Mitchell's Tracey:

"It's easier for the dealer to

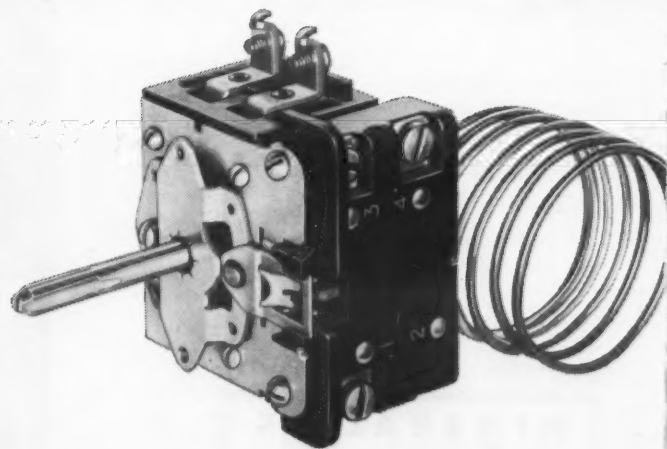
sell the customer at a higher price, and therefore at a decent profit to himself, when people come in and ask: 'Do you have the Mitchell casement air conditioner that was advertised last Sunday?' than if they ask to see 'that air conditioner that was advertised for only X number of dollars.'

"When the desire for a specific unit is already planted in the customer's mind it is easier to sell him a high-end unit than the price-conscious customer."



a thermostat is known by the company it keeps

THE WILCOLATO SERIES G & G IS NEW



Consent Order Bars Air Conditioning Ads For Port-A-Temp Unit

WASHINGTON, D. C. — The Federal Trade Commission has approved a consent order prohibiting Roy M. Bloom, Inc., 274 Madison Ave., New York City, from advertisements that its "Port-A-Temp" appliance is an air conditioner or that it will purify, dehumidify, deodorize, or cool air.

The commission adopted an initial decision by Hearing Examiner John B. Poindexter containing an order agreed to by the company and the Commission's Bureau of Litigation, it was pointed out.

A commission complaint, issued Feb. 11, charged that the product is not an air conditioner. The capacity of the "Port-A-Temp" (a device that operates by blowing air over cans of refrigerant cooled in a refrigerator) to cool or dehumidify is so slight, the complaint had alleged, that any reference to these functions in advertising is unwarranted.

The company allegedly had made such statements in advertising as "Enjoy Air Conditioned Cool Comfort."

Named in the order is the company's president, Roy M. Bloom.

The agreement is for settlement purposes only and does not constitute an admission by the company or its president that they have violated the law, the announcement explained.

9 ARI Product Sections Elect New Officers

HOT SPRINGS, Va.—Elections of new officers were held by nine product sections of the Air-Conditioning & Refrigeration Institute at sessions held at the annual meeting of the institute here.

Newly elected officers are listed below:

Air-Conditioning and Refrigeration Systems Section: E. R. Michel, Worthington Corp.,

chairman, and W. B. Cott, Westinghouse Electric Corp., vice chairman.

Cooling Tower Section: J. F. Pritchard, Jr., Dover Mfg. Co., chairman, and Donald Cousins, The Marley Co., vice chairman.

Heat Transfer Section: E. B. Dunphy, Acme Industries, Inc., chairman, and Alan S. Decker, Dunham-Bush, Inc., vice chairman.

Room Air-Conditioner Sec-

tion: R. E. Cassatt, York Div., Borg-Warner Corp., chairman, and P. M. Augenstein, General Electric Co., vice chairman.

Self-contained and Residential Air-Conditioner Section: A. F. Ward, Worthington Corp., chairman, and Mark E. Mooney, Typhoon Air Conditioning Co., Div. of Hupp Corp., vice chairman.

Small Compressor Section: L. C. Hanson, Carrier Corp., chair-

man, and L. W. Larsen, Tecumseh Products Co., vice chairman.

Temperature Controls Section: J. B. Morrison, Paragon Electric Co., chairman.

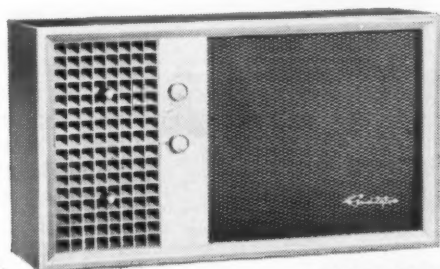
Tubular Products Section: R. C. McCullough, Bohn Aluminum & Brass Corp., chairman, and W. T. Ireland, Wolverine Tube, Div. of Calumet & Hecla, Inc., vice chairman.

Valves, Driers, Fittings, and Accessories Section: W. T. Carmody, Sporlan Valve Co., chair-

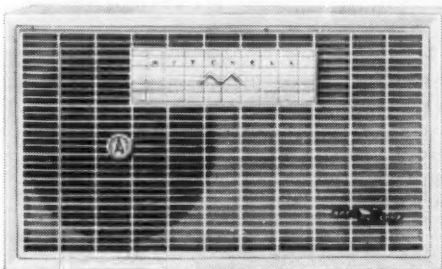
man, and G. R. Allen, Superior Valve & Fittings Co., vice chairman.

In addition to the product section elections, new chairmen were appointed for two subsections of the Heat Transfer Section.

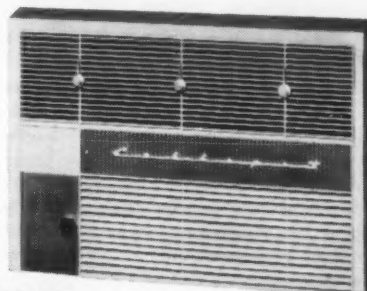
Frank Hawk of Bohn Aluminum & Brass Corp. was named chairman of Sub-Section A, and John Engalitcheff, Jr. of Baltimore Aircoil Co., Inc. was appointed chairman of Sub-Section D.



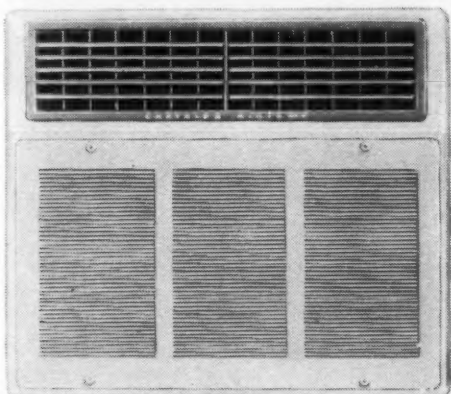
REMINGTON



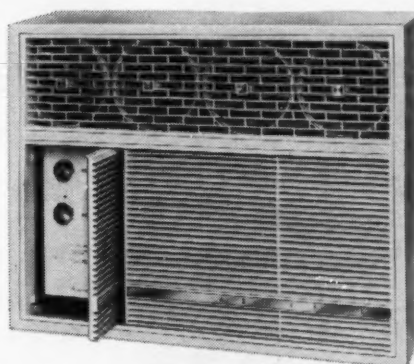
MITCHELL



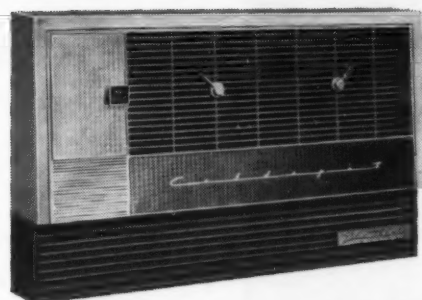
COLDSPOT



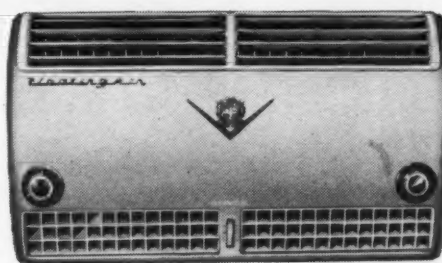
CHRYSLER AIRTEMP



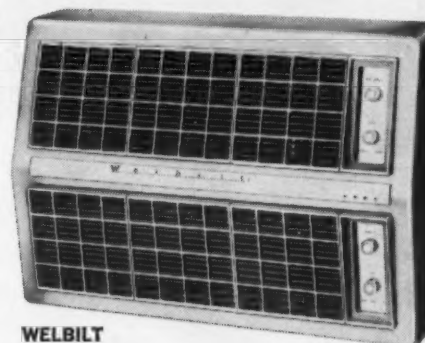
ADMIRAL



COLDSPOT



FRIEDRICH



WELBILT

and many others

...yet look who's using it today!

For higher rating...for positive, more sensitive snap-on action...for Wilcolator reliability

These are all compelling reasons for the widespread adoption of these sensational Wilcolator thermostats.

An especially attractive feature of the Wilcolator GA is the special switch, cam-operated from the dial shaft, which controls several circuits, *with a single dial*. In an air-conditioner this switch provides for "Constant Cool", "Fan

"Only", and "Fan and Cooling" from a single dial shaft.

In a heater load the GA can control both "bake" and "broil" circuits for an electric range and incorporate double pole break in the "Off" position.

Amplitude can be factory adjusted to customer's specifications. Contact mechanism is not affected by vibration. For full information on the Series G and GA, contact the Wilcolator Company, 1001 Newark Ave., Elizabeth, N. J. Canadian Plant: Wilcolator (Canada) Ltd., Mimico, Toronto, Canada.

SUGGESTED APPLICATIONS INCLUDE:

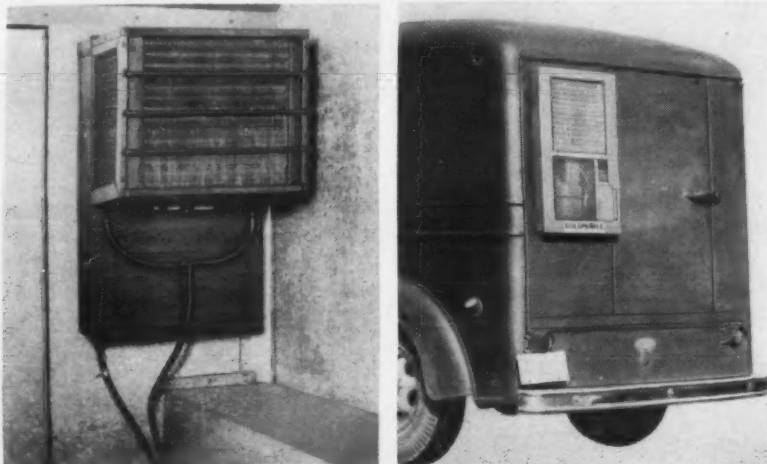
Electric ranges • Room Coolers • Air Conditioners • Clothes Dryers
Room Heaters • Roll Warmers • Roasters • Fryers • Steam Tables
Warming Ovens • Rangette Ovens • Water Heaters • Bake Ovens, etc.
Stock Water Heaters • Restaurant Appliances • Vending Equipment
Packaging Machinery • Photo Dryers, Blue Print Machinery, etc.



Export Address:
Wilcolator,
1010 Schaff Building,
1505 Race St.,
Philadelphia, Pa.

For more information about products advertised on this page use Information Center, page 22.

3/4-Hp. Milk Truck Unit Offers 24-Hr. Cooling



MECHANICAL refrigeration unit, the "Retailer," designed by Union Asbestos & Rubber Co. specifically for use on door-to-door retail milk trucks is marketed by Coldmobile Div. It is powered by a generator connected to the truck's engine when in use, and can be kept running by single-phase, 220 v. line. Unit is compact, 3/4-hp. self-contained package featuring fully hermetically-sealed system, including evaporator, condenser, and compressor. It is said to provide 24-hour protection with its variable speed control that increases a.c. generator's output as motor speed decreases giving constant flow of power. Defrost is automatic.

Down to -10°

12 1/2-Kw. Diesel Unit Powers Railway Car Refrigeration To Maintain Temperature

SYRACUSE, N. Y.—A new railway refrigeration unit that can "think for itself" on long, untended cross-country hauls has been developed by Carrier Corp. for low cost transport of refrigerated foods, the company announced.

The new unit—a product of five years of research by Carrier engineers — "features compactness, high capacity with low power requirements, automatic defrosting, and heating as well as cooling," according to the announcement.

Loren Fletcher, vice president and general manager of Carrier's Allied Products Div., said the new product weighs 600 lbs. less than previous models, and



RAILWAY refrigeration unit is said to be able "to think for itself." It was developed by Carrier Corp. for low-cost transport of refrigerated foods.

"cuts down size and cost, while increasing efficiency and dependability."

"Automatic equipment controls both heating and cooling, making the unit complete maintenance-free on transcontinental runs," it was stated. "Another Carrier innovation is automatic defrosting which provides for quick removal of ice from cooling coils without disturbing the cargo space temperature."

"The refrigerating capacity is sufficient to provide temperatures down to -10° F. under all conditions encountered within continental United States. It uses a 12 1/2 kilowatt diesel power supply."

"Heating also is provided in case other than frozen food is to be transported. The versatile heating-cooling system also works to keep temperatures constant despite outside changes of climate met in long-distance runs."

The unit includes two compressors, each capable of operating the system by itself. Both are used when high loads are imposed. By alternating the compressors, longer life is assured and a desired constant load is provided to the power plant, it was pointed out.

Reduced power requirements of the new Carrier refrigeration unit allow use of a 12 1/2 kilowatt diesel engine alternator set which takes up less car space, Carrier said.

Jamison To Direct Harris Low-Temp Unit Marketing Program

CINCINNATI — Appointment of Rolland S. Jamison to supervise a national marketing and



publicity program for Harris low temperature refrigeration equipment has been announced by Charles C. E. Harris, president, Harris Refrigeration Co., Cam-

R. S. Jamison bridge, Mass.

Jamison will administer this program from his headquarters in Cincinnati, in addition to supervising application engineering in 14 states in the mid-west area.

From 1943 until February, 1957, Jamison managed the service and development program in low temperature refrigeration equipment for Cincinnati Sub-Zero Products Co., where he was assistant to the president. During this period he was responsible for applications of sub-zero equipment for metalworking, biological processing and storage, environmental testing, and other special industrial uses throughout the country, it was pointed out.

A member of the Environmental Equipment Institute, Harris Refrigeration Co. has specialized since 1934 in refrigeration engineering, manufacturing, and service. In 1945 Harris became active in the custom-building of low temperature equipment for industrial processing, storage, and environmental testing.

Firm Leases Quarters

NEW ORLEANS — Modern Appliance Co. has leased the property at 555 N. Scott St. for 2 1/2 years.



Fitting covers of Armaflex are quickly fabricated from miter-cut pieces and cemented together with Armstrong 520 Adhesive.

Fabricate fitting covers fast with new Armaflex pipe insulation



Look for Andy Armaflex on displays and window or door decals. He identifies the wholesaler who sells Armaflex.

You'll find it's extra easy to fabricate fitting covers from Armstrong Armaflex®. This new, foamed plastic insulating material can be cut quickly and accurately with a sharp knife and a miter box. Armaflex is clean to work with — it does not chip, crumble, or rub off. To insulate sweat fittings, use Armaflex of the same diameter as the tubing. If you're insulating screwed fittings, make up sleeve-type covers from larger sizes of Armaflex. Cement all fitting cover joints with Armstrong 520 Adhesive, the only sundry material needed.

Armaflex is a highly flexible, extra efficient insulating material for fluid cooling and heating lines. It can be slipped right on pipe or tubing before connections are made or installed after lines are in operation. Armaflex comes in 6' lengths, for pipes up to 3 1/2" o.d.

Free booklet gives details. For your copy, write Armstrong Cork Company, 2207 Parsons Street, Lancaster, Pennsylvania.

Armstrong INSULATIONS

How To Retain Key Personnel

Firm Sets Aside 30% of Net Profit Before Taxes In Growing Profit Sharing Plan

MIAMI BEACH, Fla. — Biggest advantage of a profit sharing plan is that it helps a firm to retain its top personnel.

Harvey O. Miller, first vice president of the Refrigeration & Air Conditioning Contractors Association, cited that as chief among many advantages of such a plan. He described the plan his firm, Murphy & Miller of Chicago, uses and answered questions about it.

Under his plan, Miller explained, 30% of the firm's net profit before taxes is allocated to the profit sharing plan.

"If you have a fairly good year, you are allocating to the plan a pretty good sized sum of money," Miller noted, "because Uncle Sam has not cut in yet. This is very important to the plan and also does not cost the owner of the business so much money."

Distributed on Two Bases

After the money has been allocated to the plan, it is distributed on two bases. Three-quarters of it is divided on the basis of the salary of the persons participating. One-quarter of it is allocated on the basis of year of service with the company.

"If the janitor has more years of service than a department head, he gets a bigger cut of that 25%," Miller said.

An employee must be with the company a full calendar or fiscal year to be eligible to participate in the plan. It then takes eight years for him to participate fully.

What Employee Can Draw on Leaving

If he should leave the company for any reason at the end of his first year of participation in the plan, he could draw only 30% of the amount allocated to him. For each succeeding year, he can draw an additional 10%. Thus it would be eight years before he would be entitled to his full share.

When he leaves, the balance between what he can withdraw and the amount allocated to him is then split up among the remaining members of the plan.

Thus, if a man were allocated \$100 the first year and then left, he could collect only \$30. If a man left at the end of the second year, and was allocated \$100 each year, he would be eligible to take with him 40% of \$200 or \$80. It would be 30% of the first \$100 and 10% of the second \$100.

Plan Means 'Something' After First 3 Years

For the first three years, the participant's share is pretty thin, Miller admitted. But after that time, the fund has built up to sizeable proportions and the man has better than a 50% interest in it. It means something to him then.

This system of growing participation can also prevent a group of key employees from pulling out of the firm in a body and using the money they had accumulated in the profit shar-

ing plan to start up a new company in competition, Miller noted. They have too much invested that they couldn't touch.

The man who sticks with the company does not get any cash out of the fund, Miller emphasized. The money is allowed to accumulate. The fund is run by three trustees. In the early years of the plan, the money in the fund was invested by the trustees.

However, Miller said, as the fund expanded "we found it advisable to hire another organization to invest the money on a fee basis. I would say that the money handled by these investment counsellors has earned around 5%."

While the trustees can invest the money as they see fit, within certain governmental restrictions, it cannot be invested back into your own company. You cannot sell your own stock to the profit sharing plan.

However, Miller noted, within very strict limits, the fund can loan money to the company.

Can Borrow Against Plan

While the individual participant receives no cash from the plan, he can borrow money from it up to the limit of his investment in the plan. He must repay this loan, however, and pay 5 to 6% interest on it.

The men don't mind paying the interest, Miller indicated, because it adds to the amount in the fund and they get their share of it back.

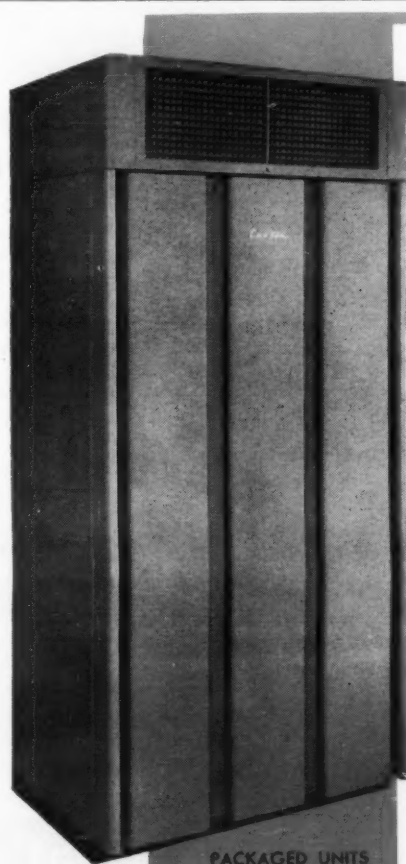
"There have been a lot of homes bought by the employees of our organization who would not have had a dime to buy a home if it was not for the plan," Miller commented.

He emphasized to the contractors that the federal government runs the profit sharing plan. The only rule the company was allowed to set was in determining how much it would contribute.

BUSINESS OPPORTUNITY

Refrigeration Wholesaler. Large Midwestern City. Highly successful. Must sell reasons of health and consolidation of resources. Good organization. Best nationally known and advertised lines. Fine business location. Inventory in excellent condition. Best Season for accelerated sales next five months. Can be handled with reasonable cash downpayment. Terms on balance dependent on reputation and financial stability of purchaser. Owner will negotiate.

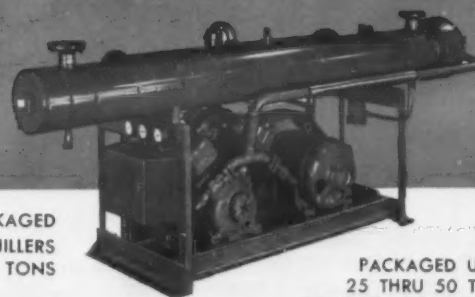
Write BOX A-5815, Air Conditioning and Refrigeration News



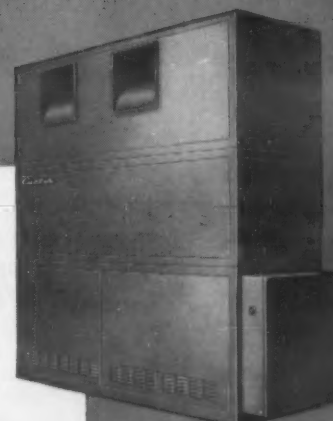
PACKAGED UNITS
3 THRU 20 TONS



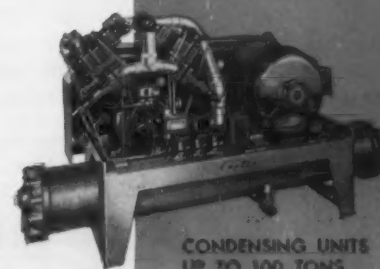
PACKAGED AIR
COOLED UNITS
UP TO 7½ TONS



PACKAGED
LIQUID CHILLERS
UP TO 100 TONS



PACKAGED UNITS
25 THRU 50 TONS
INTEGRAL EVAPORATIVE
CONDENSER OPTIONAL



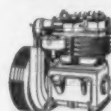
CONDENSING UNITS
UP TO 100 TONS

CAN COUNT ON
REMEMBER...
YOU

Curtis

OUR 103rd YEAR
MANUFACTURING COMPANY
REFRIGERATION DIVISION
1912 Kienlen Ave. St. Louis 20, Mo.

CM-18



INDUSTRIAL
AIR COMPRESSOR



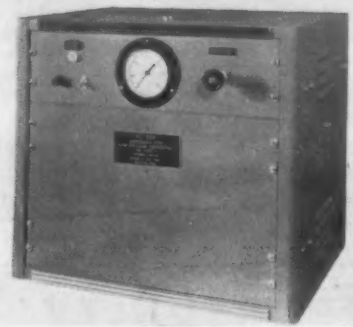
AIR HOISTS
AIR CYLINDERS



AUTO LIFTS

What's New

Air Conditioning & Refrigeration News, July 8, 1957



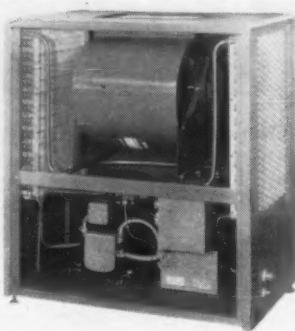
Announces Air-Cooled Conditioning Line

—KEY NO. G-721—
PHILADELPHIA — United States Air Conditioning Corp. recently announced a completely new line of air-cooled air conditioning equipment for residential and commercial application.

The "Kooler Aire" waterless system is suited for localities where water is scarce or expensive or water disposal is a problem.

The air-cooled condensers are available in sizes 2, 3, 5, and 7½ hp. Completely new in design, the model is vertically proportioned requiring a minimum of ground space. It is styled for compactness, eye appeal, and ease of installation and can be installed wherever there is sufficient supply of outside air, the company said.

Kooler Aire condensing unit is designed with two condenser coils and two air inlets, one on each side, to permit a larger face area of contact, thereby increasing efficiency and economy of operation. Air discharge is vertical to the top of the unit, eliminating the possibility of recirculating warm



air or injuring shrubbery. The blower can be easily rotated in the field if horizontal discharge is required. The blower scroll is the only part rotated—motor and drive remain as supplied. All air intakes and exhaust openings are covered with protective safety screening to prevent the possibility of personal injury.

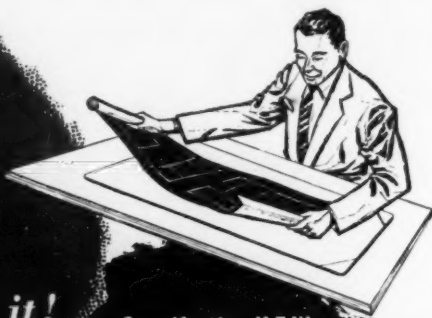
Cabinet is fabricated of heavy steel, bonderized, and finished in two-tone weather-resistant baked enamel. The front panel is removable for access to all components.

Adsorption Gas Dryers Introduced

—KEY NO. G-720—
HARTFORD, Conn. — Kahn & Co., Inc. recently announced a new series of low-pressure adsorption gas dryers designed specifically for such applications as atmosphere control.

Units are completely automatic with twin adsorption towers to assure a continuous flow of dry gas at dewpoints of -50° F. or lower. Explosion proof construction is available also.

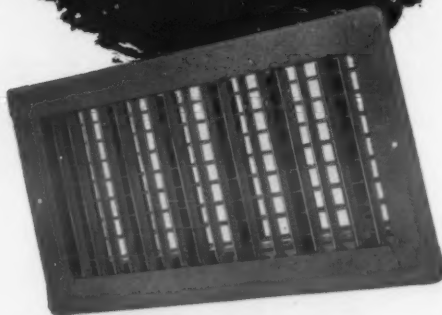
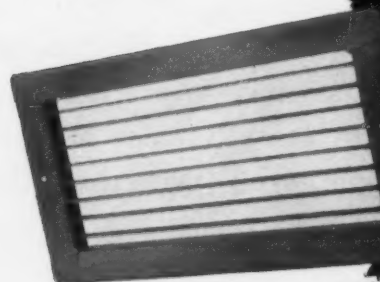
for a
"beautiful" job
of
distributing
air where
you want it!



Specify the NEW

Lima
Flexi-Trol
COMMERCIAL
AIR CONDITIONING
REGISTERS and GRILLES

Completely Adjustable



COMPLETE AIR CONTROL

STURDY CONSTRUCTION

LASTING BEAUTY

In your air conditioning business, complete air control is of extreme importance. Naturally you have the greatest appreciation of registers and grilles that properly direct the air. Lima single and double deflection registers have horizontal and vertical face bars that can be easily adjusted to provide any air pattern desired.

You'll also agree that the construction and finish of air conditioning grilles are mighty important too. Lima registers have one-piece rigidity. All joints are welded and corners are reinforced for extra strength . . . no rattles in high velocity air streams.

Lima durable beige enamel finish is electrostatically applied for uniform coverage and protection and then baked on for lasting beauty. May be repainted if desired.

Write today for literature and specifications on the new Lima Flexi-Trol Commercial Air Conditioning Line.

Lima REGISTER COMPANY
1798 N. Cable Rd., Lima, Ohio
sold exclusively through wholesalers and manufacturers

SIMPLIFIED
HANDLING TOO . . .

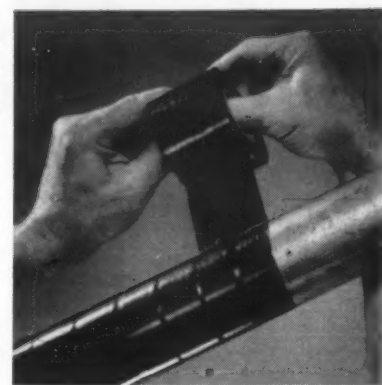
In seconds you can convert single or double deflection Grilles into Registers—simply add a Valve! Saves warehouse space, working capital, and handling cost!

Extruded Film Gives Tight Coating

—KEY NO. G-722—
NEW HAVEN, Conn. — A tough polyethylene extruded film coated on one side with a pressure sensitive adhesive and supplied in roll form has been introduced by Seamless Rubber Co.

Applied spirally on pipe product it gives a tight, firm coating permitting virtually no moisture absorption or penetration. It can also be applied to inside of tanks or around elbows or tees.

It is resistant to: electrolytic attack, most acids and alkalis, microbiological deterioration, and will not leach out when buried in the earth, the firm said. The tape may be applied by manual or



mechanical means. Material is available in widths from 1 to 36 in.

Window Withstands Temperature Cycles

—KEY NO. G-724—
BROOKLYN — A new multiple dry-air insulating glass observation window assembly, capable of withstanding temperature cycles from -100° F. to plus 500° F., is now in full production, it was recently announced by Duo-Pane Corp.

The multiple glass units, also effective at high altitude and humidity conditions and in complete vacuums, surpass previous performance limitations of similar glass windows by plus 250° F., it is claimed.

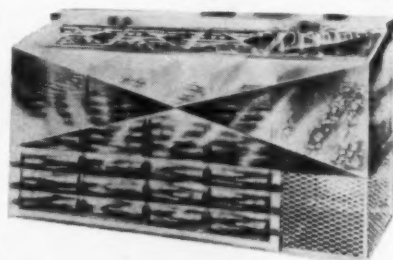
Duo-Pane units, specifically designed to meet the demanding requirements of today's observation windows, are already performing satisfactorily in environmental testing cabinets employed in electronic and aircraft plants, as well as other research installations.

Hoisting Yoke Eases Cooling Tower Lift

—KEY NO. G-723—
KANSAS CITY, Mo. — A detachable hoisting yoke which simplifies the shipping and installation of cooling towers has been introduced by Havens Cooling Towers Div. of Havens Structural Steel Co.

The yoke, which is furnished with each Havens "Verti Flow" tower (80-200 ton), is hooked into eyebolts in the top of the tower.

"A CASE OF COOL JUDGMENT"



FLO-COLD
DRINKMASTER
STAINLESS STEEL
CUBER — COOLER.

SOLD THRU DEALERS ONLY
WRITE

United Refrigerator Engrs.
MENOMINEE, MICH.
AVAILABLE IN SIZES 4 to 10 FT.

Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised
(list name, page, and issue date)

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What's New or Current Literature Available

Key No.	Key No.
Key No.	Key No.
Key No.	Key No.
Key No.	Key No.
Key No.	Key No.

Name Title
(Please Print)

Company

Street

City Zone State

Type of Business

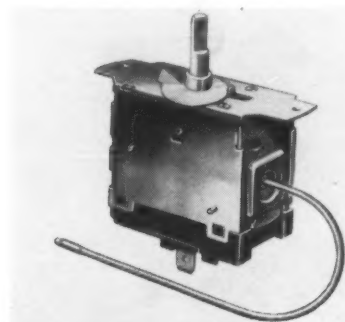
MAIL THIS FORM TO

AIR CONDITIONING & REFRIGERATION NEWS

Readers Service Dept.

450 W. FORT ST.

DETROIT 26, MICHIGAN



Fan, Compressor Run by One Dial

KEY NO. G-725

COLUMBUS, Ohio—A versatile new air conditioning control that operates fan and compressor with a single dial knob has been introduced by Ranco Inc.

The new "F17" control is suited for window air conditioning equipment where compactness and versatility of function are essential, the company explained.

Unit features two switches in a single stainless steel case for operation of both a one-speed fan and a compressor with a common control knob. Rotating the knob from off position first switches on the fan, it was noted, while secondary positions operate the compressor.



Power Tool Has Two Barrels

KEY NO. G-726

PORTLAND, Ore.—"Twin-Master," a new power actuated tool with interchangeable barrels for driving $\frac{1}{4}$ and $\frac{3}{8}$ -in. pins into concrete and steel was recently placed in production by Omark Industries here.

Two tools in one, barrels of the unit are said to be easy to change, allow pin positioning for maximum and minimum power. Breech plugs permit firing .22 or .25 caliber power loads. Made of special alloy steels, tool has a polyvinyl hand grip and chromium-plated housing. Over-all length is 14 in., weight is 6 $\frac{1}{2}$ lbs.

NOLIN

MEAT DISPLAY CASES

- BEAUTIFUL
- ECONOMICAL
- DURABLE
- PROFITABLE

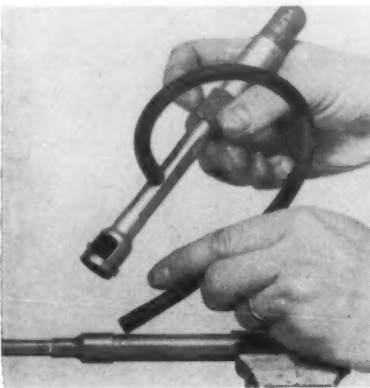
NOLIN MANUFACTURING COMPANY
1400 LLOYD ST. PH. 3-4454
MONTGOMERY, ALABAMA

Halide Leak Detector Offers Operation Ease

KEY NO. G-727

BLOOMFIELD, N. J.—A halide leak detector sold by Kidde Mfg. Co., Inc. here is said to easily reveal refrigerant leaks in fittings and joints.

Light the small, lightweight torch holding it in one hand, and move the opening of the rubber tube over the piping. A brilliant green flame will be emitted if refrigerant is present, the company explains. With the rubber tube removed, the torch supplies 30 minutes of 3,500° F. flame for soldering, it was noted. Priced at \$7.95 with five chargers.



Improves Fiberboard To Cover Wide Range

KEY NO. G-728

LANCASTER, Pa. — Development of an improved fiberboard sheeting material to make it applicable to a wide range of industrial uses, has been announced by the Industrial Div. of the Armstrong Cork Co.

New Armstrong "Fiberboard" sheets, developed through research

as a successor to the company's former fiberboard sheet material, have vastly improved characteristics which make the product increasingly acceptable as a lightweight, economical material, the firm claims.

Light in weight and low in initial cost, fiberboard sheets offer further saving in ease of fabrication.

2 Auto-Transformers Made Available

KEY NO. G-729

CHICAGO—Two new air conditioner auto-transformers have been made available by Chicago Standard Transformer Corp.

These are step-up/step-down units, designed for converting 208 v. units to 230 v. lines. Converting from 230 v. units to 208 v. line is accomplished by a simple change of connections inside the outlet box, it was stated.

These "Stancor" transformers are for 60 cycle operation and are equipped with line cord, standard polarized 250 v. plug and receptacle. Stancor part PSU-2000 is



rated at 2.3 kva. and is for air conditioners using $\frac{1}{2}$ through 1 hp. motors. Stancor part PSU-3000 is rated at 3 kva. and is for air conditioners using 1 to 2 hp. motors.

Adds Solenoid Valve of 5-Ton Rating

KEY NO. G-7210

ST. LOUIS—Sporlan Valve Co. has added new type 20 to its line of solenoid valves.

This model has a nominal rating of 5 tons (Refrigerant-12) thus providing an intermediate valve for the capacity range between those of the types 12 and 73.

The "20" with a maximum open-

ing pressure differential (MOPD) of 275 lbs. p.s.i., can be used in both Refrigerants-12 and 22, and has a $\frac{5}{16}$ -in. orifice, with $\frac{3}{8}$ -in. O.D.F. (sweat) connections on the inlet and outlet.

It is powered by the "Blue Seal" coil in all standard voltages including dual voltage (a.c.) and d.c. up to and including 115 volts.

END OF THE LINE FOR "DRIPPY DAN"

IMPERIAL GOLDEN TORPEDO FILTER-DRIER



IMPERIAL TORPEDO DRIER



IMPERIAL TORPEDOS® trap trouble, save call-backs

Imperial Torpedo driers and filter-driers are the industry's first line of offense against moisture, acids, dirt, scale and sludge. No more valve freeze-ups or dirty valve parts with one of these units on the job!

The reason: Imperial Torpedos provide far greater filtering and drying capacity for a longer period of time. Imperial was first to offer a one-piece copper shell that provides greater strength. It's lighter in weight... has fewer joints, less chance for leakage. This top quality construction adds up to faultless performance.

Shoot the works against costly callbacks—next time install Imperial Torpedos; you'll profit more!



GOLDEN TORPEDO FILTER-DRIER

dries before and after filtering!

- 2-stage drying action. PA 400 silica gel in both chambers.
- Exclusive Impervynyl nylon filtering.
- Full filtering capacity without loss of drier capacity.
- Both stages refilled at one time. Quick cleaning.
- Capacity: 6 to 100 cu. in. Flare connections: $\frac{1}{4}$ to $\frac{3}{8}$ ". Solder connections: $\frac{3}{8}$ to $1\frac{1}{8}$ ". Furnished with flare nuts and copper seal caps.

TORPEDO DRIER

with double-strainer and brazed joints!

- Copper and brass construction throughout.
- Greater filtering area on all sizes—longer filtering before cleaning.
- Interchangeable tubing connections on 30, 50 and 75 cu. in. sizes of refillable types.
- Charged with PA 400—up to 98% greater moisture adsorption capacity than former type.
- Capacity: 6 to 75 cu. in.
- Flare connections $\frac{1}{4}$ to $\frac{3}{8}$ ".

Also non-refillable types.

Order from your jobber—or write for Catalog No. 81 and Bulletin 116-REF.

IMPERIAL

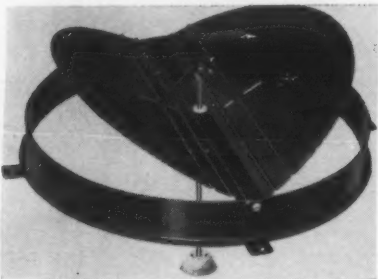
THE IMPERIAL BRASS MFG. CO.
566 S. Racine, Chicago 7, Illinois
In Canada: 334 Lauder Avenue, Toronto, Ontario

Emblem of Quality

FITTINGS • VALVES • DRIERS • CHARGING LINES • TOOLS for Cutting • Flaring • Bending • Pinch-Off • Swaging

For more information about products advertised on this page use Information Center, page 22.

'Push-Pull' Dampering Concept Redesigned



—KEY NO. G-7211—
COOPERSVILLE, Mich. — A new "push-pull" concept of dampering both round and square ceiling diffusers has been announced by Air Control Products, Inc.

New model 78 round damper fits all Air Control round diffusers sizes 6, 8, 10, 12 and 14 in. Model 91 square damper fits all Air Control square diffusers in 6, 8, 10, 12, 14, and 18-in. squares. Replacing dangling chains, the dampers are rod-operated, with a styled plastic operator knob, which may be removed to prevent tampering with any setting.

A nylon friction bearing allows

smooth, silent operation when changing the volume from any setting, and holds the butterfly-type valves in any selected position, the firm said. The fully-open position may be easily limited by means of the "adjusto-stop" feature. Floating tension springs eliminate all rattle at any c.f.m. The damper ring screws directly to the duct on installation.

Speed Cooker Has 5 Compartments

—KEY NO. G-7212—

CHICAGO — Latest production models in the stainless steel "Flex-Seal" speed cooker line made by Vischer Products Co. here are the largest, each with five cooking compartments.

Cookers will prepare 720 to 900 servings an hour to meet the need for portion planning and cut waste, labor, and controls cost.

Largest units are 60 by 31 by 62 in. in full cabinet models with

sliding doors in the base. Model 500 is designed for direct steam connection, and 550 has its own steam generator.

Single compartment model, 12 by 12 by 22 in., complete with automatic electric steam generator, or for direct steam operation as needed, is the smallest in the Flex-Seal line, it was pointed out. Units cook with "dry" steam adding no water. One cooking compartment will cook an institutional package of frozen vegetables without defrosting in 4-5 minutes.

Announces Steel Radiation Line

—KEY NO. G-7213—

CHICAGO — A new line of "Sunnywall" steel radiation for school, business, and industrial installations has been announced by Crane Co.

The new line of steel fin-tube radiation, which rounds out Crane's commercial heating line, comes in five sizes, it was noted. The heating element is fabricated of resistance-welded tubing, with steel fins attached in a double-fold hub design assuring full and constant contact with the tube, it was explained.

Three types of hangers are offered with the new product. One type, called the "Adjust-a-Roll," has a cradle that travels on hard fiber rollers. This cradle moves to compensate for expansion and uneven walls. Both this type and a slide-cradle hanger are recommended for runs over 20 ft. Also offered is a standard hanger for runs of less than 20 ft., the firm added.



Disposer Is Wrapped In Sound Sponge

—KEY NO. G-7214—

LOS ANGELES — First household disposer said to be engineered to soak up its own sound while liquefying food waste was recently introduced by Waste King Corp.

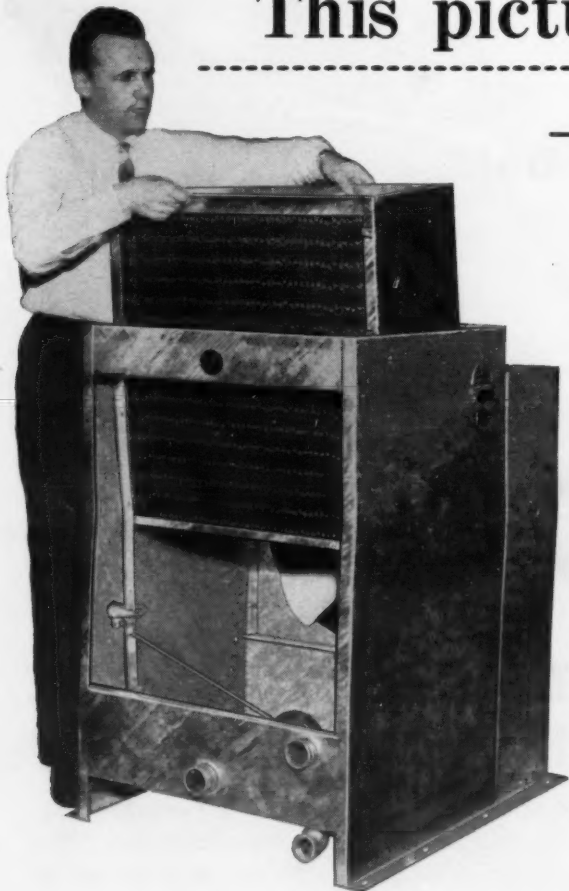
The all-new "Super Hush" is wrapped in a sound sponge which absorbs noises so they cannot interfere with normal conversation, it was claimed.

New anti-jam flow conductor impellers help to step-up liquefaction from 25 to 35%, the firm said.

The unit is completely encased in a noise-deadening plastic shell, lined with ½ in. of Silican fiber sponge. Escaping sound is soaked up by this sponge as it bounces back and forth between the disposer's liquefying chamber and plastic outer shell, it was explained.

Liquefaction is begun when the homemaker turns on the tap water, flips a switch, and scrapes food waste into the sink drain.

This picture tells the story . . .



— why *Acme's* new **FLOW-COLD**
Cooling Towers are the smallest, lightest,
most efficient ever developed!

This man is lifting 515 square feet of highly efficient deck surface . . . a 37-pound capsule of concentrated cooling capacity that is the heart of this 7½-ton tower. It's the new plastic pak* developed exclusively by Acme Industries, and it tells the story why these new FLOW-COLD towers are the smallest and lightest in their field by an unbelievable margin. This 7½-ton tower, for example, takes less than 24 cubic feet of space and weighs a mere 300 pounds. Other leading makes take up to twice this space and weigh more than twice as much!

But that's not all. With the Acme-Pak, you not only get far more wetted surface, but a more effective surface as well. These molded plastic sheets are dotted with thousands of turbulators and "spreader" ribs that control air turbulence and water flow to achieve maximum heat transfer.

Remember too the Acme-Pak cannot rot nor rust like other materials. It's made of chemically inert polystyrene that no amount of water can damage in a lifetime.

*Patent Applied For

PLUS these other Flow-Cold features to sell and serve your customer:

controlled water distribution without nozzles

Another Acme exclusive consists of plastic water-dispersal troughs on the underside of the pan that channel water in equal quantities to the multiple spaces between pak sheets.

easy access to all parts

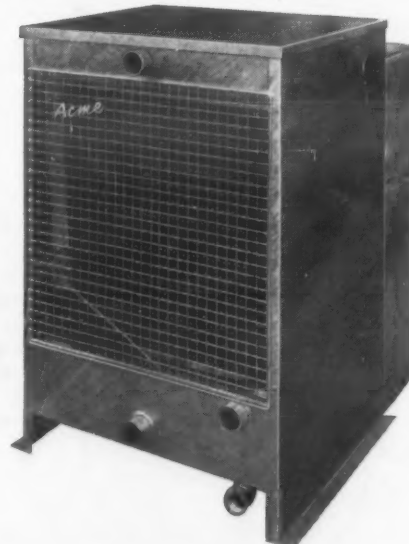
The sump, pak, and distribution pan are all easily reached by removing the top cover and front grill piece. Self-contained pak slides completely out if necessary.

housing never needs painting

The welded steel housings of FLOW-COLD Towers are hot-dip galvanized for year-round protection that never needs painting.

unequalled compactness and good looks

Flush grill guards on front and rear lend a modern functional look to these new towers. They're smaller too. Compared with other tower makes, Flow-Cold is in a size class by itself.



TO SEE HOW FLOW-COLD SAVES THREE WAYS FOR YOU . . . WITH LOWER UNIT COST, LESS FREIGHT, LONGER TROUBLE-FREE SERVICE . . . WRITE TODAY FOR CATALOG NO. 371.



Acme INDUSTRIES INC. Jackson, Michigan



Manufacturers of Quality Air Conditioning and Refrigeration Equipment since 1919

For more information about products advertised on this page use Information Center, page 22.

Claim Nailer Drives Nails Anyplace

—KEY NO. G-7215—

CHICAGO — A new nailer that is said to drive nails anyplace and which drives brads to spikes in exact locations was recently introduced here by Schil-Hall Tool & Mfg. Co.

Called "Schil-Dilly Nailer," the tool has a steel holder 9 in. long by ⅞ in. in diameter. A ⅝-in. well runs through this in which the plunger hammer moves. The tool is held at the sure-grip area and the plunger-hammer pulled back, a nail inserted, and the hammer thrust forward.

Available in three sizes, Schil-Dilly Nailer permits pinpoint nailing in hard-to-reach places, the company said. Standard model is 9 in., professional is 12, while the heavy duty is 15 in. Prices range from \$4.95 to \$6.95.

REPRINTS COMPARISON OF REFRIG- ERANTS 12-22.

By Paul Reed—Only 75¢ ea. Clip this ad and mail with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort St., Detroit 26, Mich.

Installing Room Units Adjudged Not To Be Violation of Lease

ELMHURST, N. Y.—An attempt to evict three tenants who installed air conditioners in alleged violation of their leases was defeated in municipal court here.

Judge Charles V. Vallone dismissed the eviction proceedings brought by landlord Queens Boulevard Garden Corp. against Jack Silverstein, Saul M. Swirn, and Hyman L. Fastenberg all of Forest Hills, N. Y.

Discounting the standard clause in each lease, "Tenant shall make no alteration or addition to the electrical equipment and/or appliances without the prior written consent of the landlord in each instance," Judge Vallone held this was simply intended to prevent tenants from improperly tampering with fixtures and appliances provided.

To interpret the clause the way the landlord desired, he added, it would mean that tenants would be barred from having television, broilers, fans, and even new lamps without first getting the landlord's written consent.

The court held that the landlord had failed to prove that the air conditioners interfered with rights and comforts of other tenants, violated fire control laws, and posed a safety threat.

'Keep Cool With Room Unit'

Colorado-Utah Utilities Push Comfort In Home

SALT LAKE CITY — New painted outdoor signboards urging consumers to "Keep Cool With an Electric Room Air Conditioner" spearhead the joint Western Colorado Power Co.-Utah Power & Light Co. campaign designed to help dealers "add a big plus" in sales through the summer.

Supplementing these signboards will be advertisements in more than 70 newspapers and on 28 radio stations and three television stations. Bus cards are also being used.

"Summer comfort in the home is something most people in this area now want," declared W. A. Huckins of the Utah Power Co. "More and more of them now have the means to pay for it."

In the mountain area covered by the two utilities, only five room air conditioners were sold during the cool months of March and April. Thirteen units were sold in the first four months of 1957 for a dollar total of \$3,900.

Eight central air conditioning units, sold in March and April, were part of the 23-unit total for the January-April period. Dollar Value of the 23 central units was \$23,000.

Looking for
a Business to Buy . . . ?

Check the
Business Opportunities
Section
in the classified
advertising columns.

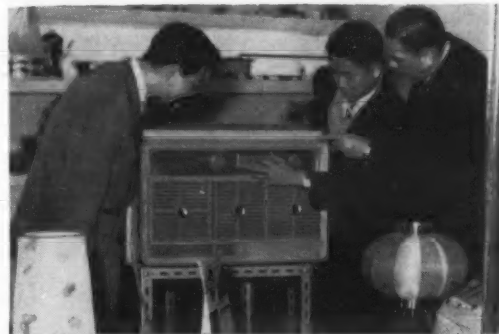
In Hong Kong, Too, You Must Promote . . . To Sell



HONG KONG—It takes as much promotion to sell air conditioners in Hong Kong as it does in Houston, reports Heinz O. Spier, export manager for Remington Air Conditioning Div., Remington Corp.

U. Spalinger & Co., Ltd., Remington distributor in the British crown colony on the south China coast for the past 10 years, has turned his limited dollar resources to good account, Spier declared.

Because Hong Kong is a city of steep hills and tall buildings, an air conditioning advertisement on the roof of service trucks (left) catches the attention of the "higher-



ups." An electric sign on a main thoroughfare shouts "Remington" day and night—in two languages (center).

These, plus repeat advertising in Chinese and English language newspapers, on movie screens, on sports programs, and by direct mail, lure Chinese businessmen such as the operators of Shanghai Ray's beauty parlor (above) to visit Spalinger's.

A surprisingly large number of Hong Kong beauty parlors and barber shops are air conditioned, says Spier.

Much like the movement



of a fine waterproof watch...

**A. O. Smith hermetic motors
are quality-built to be**



HERMETICALLY sealed inside your compressor, A. O. Smith motors are quality-built to provide a reliable source of power for refrigeration or air conditioning, year-in and year-out. They're custom-built and dynamically-balanced for years of dependable, quiet, vibrationless service. What's more, each motor is manufactured under strict quality control . . . assembled and tested under controlled atmospheric conditions, ever-free of dirt and dust.

A. O. Smith hermetic motors are application-engineered to match your compressor design. They're available in single-phase and polyphase, 1 through 10 hp.

Get all the facts about A. O. Smith hermetic motors. Write today for full details.

Choose from a complete line of A. O. Smith motors:
Single-phase, capacitor-start, induction-type
motors — 1/2 through 5 hp.

Polyphase, squirrel-cage, induction-type motors
— 1/2 through 150 hp.

Through research  a better way

A.O. Smith
CORPORATION

ELECTRIC MOTOR DIVISION
TIPP CITY, OHIO

INTERNATIONAL DIVISION: MILWAUKEE 1, WISCONSIN

Each hermetic motor is carefully packaged in a heavy fibre-board box . . . all are carefully wrapped in a plastic blanket. Further protection from moisture is obtained by insertion of individual bags of silica gel.



For more information about products advertised on this page use Information Center, page 22.

Bulletin Describes Aluminum Ice Plates

—KEY NO. S-720—
BREWSTER, N. Y.—Heat-X, Inc. has issued a bulletin which describes its new line of cast aluminum ice plates for cooling liquids with ice. These plates are available in six sizes with 1, 2, or 3 circuits.

The bulletin lists various capacities in which the plates are available and points up the simplicity of installation and maintenance.

"In use" operation of the ice plates is explained and illustrated in some detail. Pointing out that no external refrigeration is required for this self-contained unit, the bulletin explains that these ice plates are a means for chilling carbonated or non-carbonated beverages.

Catalog Details on Bulk Industrial Hose

—KEY NO. S-721—
FORT WAYNE, Ind.—The publication of a new 40-page "Hose, Hose Ends, and Assemblies" catalog has been announced by the

Weatherhead Co., Fort Wayne Div.

The new catalog incorporates complete and detailed information on bulk industrial hose, permanently attached hose assemblies, swaged hose assemblies and ends, hose end swivel adapters, assembly instructions, and installation data.

"At-a-glance" charts are featured in the catalog for hose agent selection, hose specifications, and hose end identification. Over 180 elements are shown.

Folder Illustrates Summer Cooling Line

—KEY NO. S-722—
NORTH JUDSON, Ind.—Thermo-Products, Inc. recently released a new, colorful folder on summer air conditioning, consisting of photographs of all models and literature including specification data of each model.

This equipment offered is readily adaptable for installation with "new or existing" furnaces. The units are designed for adaptation to basement, hi-boy, counterflow, and horizontal furnaces.

Brochure Dramatizes 'Step-Up, Sell-Up' Idea

—KEY NO. S-723—
MANSFIELD, Ohio—Colorful sales literature of a unique nature has been put into the hands of wholesalers and dealers by Barnes Mfg. Co. here, maker of pumps and water systems.

Based on the "step-up, sell-up" theme, the new catalog-type brochure dramatizes the idea by means of actual "steps" within classifications including shallow-well, shallow-deep convertible, and deep-well jet water systems.

Various units within each classification, graduating in quality and price, are illustrated and described along with their "plus features." Idea is to help Barnes dealer salesmen to "sell-up" their customers on higher quality water systems and thus step-up their units of sale. The literature introduces several new water systems including Barnes "Super-Seal" submersible jet model.

Issues Booklet on Consumer Service

—KEY NO. S-724—
LA CROSSE, Wis.—Three new consumer booklets for direct-mail use have been issued by the Trane Co. to authorized dealers of its self-contained air conditioners.

Entitled "Packaged Weather Magic," the booklets are written for the dealers as a customer service to keep small business owners informed on modern applications and advances in packaged air conditioning.

In each application problems are discussed, pointing toward an economical, efficient solution. Items covered include: 1) How to air condition a bank without interrupting business; 2) heating with a self-contained air conditioner; and 3) how six shops are air conditioned by two units.

Practical notes on ductwork for packaged units, water saving for air conditioning, and unit components are covered.

Handbook Covers Electronic Moduflow

—KEY NO. S-725—
MINNEAPOLIS—A new handbook on electronic moduflow for installers and servicemen has been published by Minneapolis-Honeywell Regulator Co.—developer of the temperature control system that regulates indoor comfort according to weather conditions. The booklet is the third in a

AIR CONDITIONING & REFRIGERATION ENGINEER

Graduate engineer, preferably mechanical, with minimum 6 years broad experience in refrigeration and air conditioning. Principal assignment involves development and preparation of major engineering studies pertinent to the technical and economic aspects of present and proposed methods and facilities in Saudi Arabia, including development of processes, design and technical data.

Facilities include large central air conditioning plant with chilled water distribution system through entire communities for residential and industry; Air conditioning totaling 14,000 ton capacity plus 700 of refrigeration for manufacture of ice and storage of commissary supplies. Must be capable of developing and carrying work assignments to completion. Assignment in New York Engineering Office. Occasional field trips required.

Write outlining personal history and work experience. Please include telephone number.

Recruiting Supervisor,
Box 221

ARABIAN AMERICAN
OIL COMPANY

505 PARK AVENUE
NEW YORK 22, NEW YORK

series of pocket-size manuals that Honeywell is preparing on automatic comfort controls. Previous handbooks contained information for electricians and sheet metal men on warm air "zone" controls.

Outlines All-Aluminum Baked Goods Units

—KEY NO. S-726—
HUDSON, N. Y.—Foster Refrigerator Corp. recently released a new, colorful brochure that fully describes its line of welded all-aluminum dough retarders and bakery freezers.

This brochure describes the many money saving advantages of correct refrigeration and freezing of baked products—how to save time, labor, and money by permitting a schedule of production, standardizing items and specialties, turning "stales" into sales, over-baking on every batch, and be sure every piece remains oven-fresh.

Listed are over 20 models of dough retarders and bakery freezers.

Presents Solderless Terminal Story

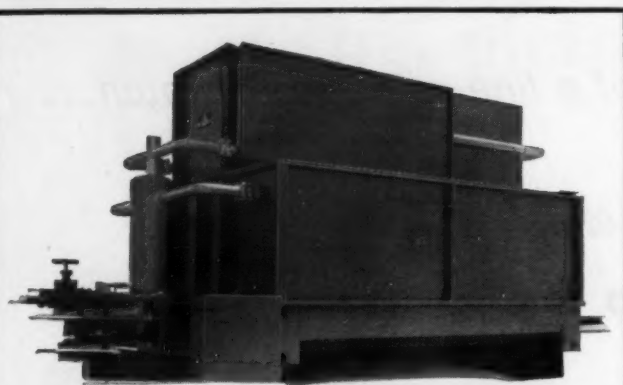
—KEY NO. S-727—
HARRISBURG, Pa.—"Molto Allegro," a 48-page brochure, points up the increased tempo of today's business and the comparative growth record of AMP, Inc. (formerly Aircraft Marine Products) here.

Profusely illustrated and printed in full color, the brochure presents the story of solderless terminals.

B & G Describes 'Airtrol System'

—KEY NO. S-728—
MORTON GROVE, Ill.—A new bulletin describing its patented "Airtrol System" guaranteed to end air trouble in hot water heating plants was recently released here by Bell & Gossett Co.

Six pages of illustrations are included in the information on the system which removes air from radiation units and returns it to the compression tank.



NIAGARA SECTIONAL Aeropass CONDENSER

gives you lower cost refrigeration,
saves you **LABOR**, Power, Water

- Because Niagara "Duopass" pre-cooling removes super-heat and gas condenses at lower temperature.
- Because the system is automatically purged of oil.
- Because the new design improves the heat transfer to the out-door air by evaporation.
- Because these features keep the condenser working for long life with "new plant" efficiency... always full capacity.
- Because you save 95% of cooling water cost.

You save labor in upkeep. With full access to all parts and interior piping you see everything in easy inspections. You head off dirt accumulation and corrosion. Casing panels are removable without moving the coils. The coils can be cleaned from both sides.

First cost is low; freight is low because of the lowest space/weight ratio; you save much labor in erection. Capacity range is 60 to 240 tons. No other condensing method gives you so much saving in money and trouble.

Write for Niagara Bulletin 131.

NIAGARA BLOWER COMPANY

Dept. AC-7, 405 Lexington Avenue
NEW YORK 17, N. Y.

District Engineers in Principal Cities



Over 40 Years Service in Industrial Air Engineering



SOLENOID VALVES

with "MULTI-VOLTAGE" coil

Simplify Valve Selection

Reduce Inventory and Parts Stock

For FREE catalog and complete details, phone, wire or write.

Controls Division JACKES-EVANS MANUFACTURING CO.

4427 Geraldine Ave. St. Louis 15, Missouri

MARK YOUR SHIPPING ORDERS
"UNCRATED"
THERE IS NO EASIER WAY TO CUT COSTS!



CRESTON DIVISION



A BETTER DEAL FOR Factory • Merchant • User

New furniture, home furnishings and store and office equipment... UNCRATED... are more safely and quickly moved at lower cost from factory to display floor or to user. North American Van Lines, Inc., Creston Division, with experienced agents at both origin and destination, accepts undivided responsibility to assure prompt, safe delivery on schedule. You save crating and uncrating costs. It will pay to check NOW!

Write or call for
"Facts about Uncrated Shipments"
and Case Histories.

SHIPPING BY NAVL-CRESTON
ELIMINATES THIS...



MATERIAL AND LABOR OF
CRATING, UNCRATING AND
EXCESS WEIGHT.

NORTH AMERICAN VAN LINES, INC.
CRESTON DIVISION, DEPT. R, FORT WAYNE, INDIANA

N.Y. Commercial Dealer Rounds Out Line with Cooling, Custom Mfg.

NEW YORK CITY—When Silverberg & Trattner Corp., franchised Weber Showcase & Fixture dealer, had its building condemned by the City of New York for a pending school building, Sam Silverberg and Sam Trattner found another building that more than suited their purposes.

Their new location at 959-973 Brook Ave., Bronx, was a former Budweiser warehouse. Silverberg and Trattner were awarded \$115,000 for their former building and they were able to purchase the warehouse for approximately \$187,000. For this sum they received a total of 60,000 sq. ft. which they are currently converting to offices, carpentry and refrigeration shop, and show room.

The 50-year-old building consists of a full basement and three full floors, with an elevator service to all floors. Also, there is a New York Central Railroad spur adjacent to the building. The basement, second, and third floor will be offered for lease when renovation is completed.

ADDS NEW LINE

Silverberg and Trattner have carried the Weber line of commercial refrigeration equipment for the last 10 years. Besides Weber equipment, they have recently added Sweden Freezer Mfg. Co. equipment. The Sweden Co. of Seattle manufactures malted and milk shake making machines and soft ice cream dispensers.

A custom line of fish display and advertising cabinets, used mostly in large supermarkets, is manufactured by the Bronx firm itself.

INCLUDE COOLING

To round out their equipment line, Silverberg and Trattner have included air conditioning units manufactured by Typhoon Air Conditioning Co., and the Melco line, manufactured by Melchoir, Armstrong, Dessau Co., Ridgefield, N. J.

In this way, both refrigeration and air conditioning are available from Silverberg and Trattner, who provide complete installation service, including

cooling towers when required. The Bronx firm sells an average of 100 major refrigeration units each year.

Silverberg and Trattner became partners over 30 years ago, when their work consisted mostly of carpentry. They gradually began to build ice-chilled refrigeration installations and soon entered into the then very young mechanical refrigeration industry, growing with it through the years. Now the men have 20 full-time employees, seven devoted entirely to sales of the various lines.

Five identical paneled service trucks, containing testing and repair tools, with one man to each truck, provide two full shifts of available service to the firm's installations.

Wants Single U. S. Standard

Offers New Sanitation Bill To Provide Uniform Interstate Milk Inspection

WASHINGTON, D. C.—A revised bill to establish a national milk sanitation act that would provide uniform inspection standards for all fluid milk in interstate commerce has been introduced by Rep. Lester Johnson of Wisconsin.

The new bill—HR7794—replaces HR6750, introduced earlier by Rep. Johnson and described in the May 6 News issue.

HR 7794 corrects a number of minor flaws in the old bill, Johnson said. Specifically, it

(1) Authorizes the Surgeon General to accept certifications of official state milk regulatory authorities, under a single U.S. standard.

(2) Provides for the Surgeon

General to examine new processes, equipment, and products used in dairying and to train personnel in uniform methods and procedures required for enforcement of the act.

(3) Extends the time limit for compliance after passage from 90 days to one year.

(4) Lists the manufactured dairy products including butter, cheese, and dried milk products which are not covered by the bill.

The bill, according to Johnson, is aimed at correcting a system of duplicating inspections that has brought as many as 14 inspectors representing different markets to inspect a single milk plant in one year.

A-1 Refrigeration Expands Quarters

SAN JOSE, Calif.—A-1 Refrigeration, San Jose industrial and commercial refrigeration firm founded 10 years ago by its owner, Grand Adams, is occupying an additional 3,000 sq. ft. of buildings at 420 S. First St.

The firm, which has a staff of 14 servicemen, five office employees, and eight salesmen serving the area from lower San Francisco Peninsula to King City, thus increased its office, sales, service, and warehouse space to something more than 12,000 sq. ft.

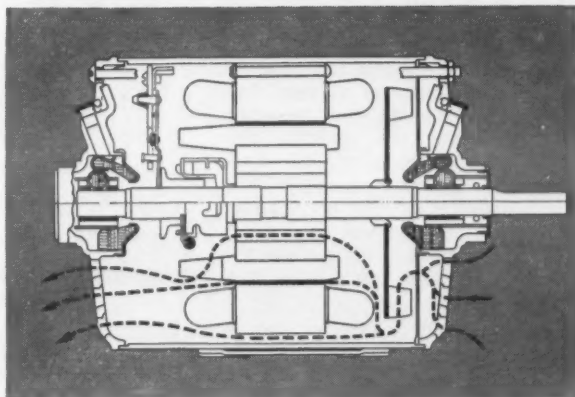
Located adjacent to the firm's facilities at 418 S. Second St., the new space will permit expansion of sales space to provide a large display area for new and used equipment which can be set up to simulate actual installation.

DESIGN ENGINEERS!



This compact, cool-running fhp motor saves space and weight... mounts at any angle

the WAGNER "48"



OUTSTANDINGLY EFFICIENT COOLING SYSTEM

Schematic drawing shows how a large volume of air is directed through the motor to effectively reduce temperatures. Large blower at right draws air in through drip-proof openings in back endplate, forces it around back coil extension—through rotor vent holes—air gap—and through passages between stator core and frame. Cast blower at left circulates air around coil extension and drives it out the motor through front endplate openings.

Savings in space and weight are among the many advantages of using Wagner "48" capacitor-start or split-phase motors in your equipment. These motors come in the standard 48 frame sizes and weigh from 3 to 8 pounds less than the previous models in the same hp ratings.

Because no parts of the motor mechanism are housed in the endplates, it is possible to materially reduce their depth. An effective lubrication system assures positive protective lubrication for the bearings in any position. You can mount these motors at the angle best suited to your equipment.

The capacitor-start, Type RK "48" comes in 1/8 or 1/4 hp ratings, and the split-phase, Type RB "48" in 1/8, 1/4 or 1/2 hp. Both types are available with resilient bases or with rigid bases that are welded to the steel motor frames for ruggedness and strength. You can get these motors from leading motor distributors in your community and from Wagner sales offices in 32 principal cities. Check your telephone directory for the supplier nearest you. Write for your file copy of NEW Bulletin MU-217 on the Wagner "48".

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

Wagner Electric Corporation
6441 Plymouth Ave., St. Louis 14, Mo., U.S.A.



M57-13

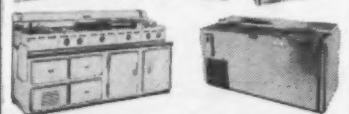
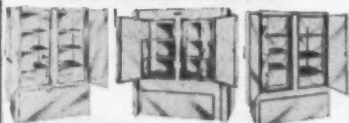
ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE BRAKE SYSTEMS—AIR AND HYDRAULIC

For more information about products advertised on this page use Information Center, page 22.

FOSTER builds over

200

Matched Models



OF WELDED ALL-ALUMINUM REFRIGERATORS AND FREEZERS especially designed for modern food service dependability, 24 hours a day — year after year.

One Line One Price One Quality
FREE LITERATURE ON REQUEST

FOSTER

Foster Refrigerator Corp. Hudson, N. Y.

Refrigeration Problems And Their Solution

(As Written by Paul Reed)

The late Paul Reed, one of the refrigeration industry's most respected writers and teachers, wrote a column on "Refrigeration Problems and Their Solution" which was published regularly in AIR CONDITIONING & REFRIGERATION NEWS for more than 15 years.

Readers throughout the years have hailed this written material as some of the most practical and helpful that has ever been published. Fortunately, the author had an opportunity to revise some of this material in the months before his untimely death, and the NEWS is re-publishing some selected instalments with the thought that it will be useful and interesting to its present readership.

Hot Weather Hints (2)

OBSTRUCTED CIRCULATION

Attention should also be given to anything that may obstruct circulation of air through the evaporator and around the foods. causing lowered suction pressure

Papers on shelves, foods stacked tightly against the evaporator, are to be removed.

Fans on blower-type evaporators may have blades bent, motors running at below normal speed, circulation blocked, evaporator fins iced; all of which may greatly reduce the air circulation capacity of the evaporator, and result in

and consequently reduced capacity of the condensing unit, increased running time, and failure to maintain required temperatures.

INCREASING CAPACITY BY STEPPING-UP AIR CIRCULATION

The rate of air circulation is important in maintaining the proper appearance and preventing excessive drying of meats, vegetables, and most food products. It is not important, however, in the case of canned foods or bottled milk or beverages, wax covered cheese, and other foods or products in sealed containers.

In refrigerators in which products so protected are kept, and which are equipped with blower-type evaporators, it is practical to increase the capacity of the evaporator by speeding up the air circulation by replacing the fan motor with one with higher speed (and greater power, as increased air moved requires more power to move it).

Some fans have adjustable pitch blades; others may be belt driven, on which the motor pulley size may be increased.

KEEP SUCTION PRESSURE UP

Increasing the rate of air circulation increases the rate at which heat is brought to the evaporator; it increases the evaporator temperature and the suction pressure; and consequently, it increases the condensing unit capacity and reduces the running time.

Too much emphasis can hardly be laid on the importance of keeping the suction pressure up. If the suction pressure is low, this means that the evaporator temperature is low and that the area of active evaporator exposed to the cooling air is less than it should be. This results in a high temperature difference between the evaporator and the foods, and also results in a low dewpoint temperature of the cooling air which in turn causes excessive drying of the foods.

A low suction pressure also means that the compressor is not running at its best capacity nor efficiency for the job that is being done.

There are many installations in use that are running at lowered capacity and efficiency, operating an excessive percentage of the time, and causing drying and discoloration of food, simply because some one skimped on the size of the evaporator, failed to feed the evaporator to make it fully active, or in some other manner did not obtain a high enough evaporator temperature and suction pressure to assure maximum capacity and efficiency of the unit, and the maintenance of proper conditions of humidity of the air.

This does not mean that expansion valves should be overfed just to obtain increased suction pressure. Frosting the suction line back to the compressor will cause increased suction pressure and extra capacity of the condensing unit, but it also wastes that extra capacity trying to refrigerate the room by means of the suction line.

When the evaporator is active and a bit of the suction line is frosted, so as to assure that the evaporator is fully active, then the optimum suction pressure has been attained and any further overfeeding does no good, and in fact, may do a great deal of harm, by

causing "liquid-pumping" and "oil-slugging" by the compressor.

EXCESSIVE SUCTION PRESSURE

Moreover, there is a limit to how high the suction pressure may be raised. It must be remembered that compressor displacements and motor sizes are based on evaporator temperature, which of course determines suction pressure.

TABLE I
Evaporator Temperatures

	0°	25°	45°
Sulphur Dioxide 8.9"	4.6	15.5	
Methyl Chloride 4.2	17.6	32.9	
Refrigerant-12 9.2	24.6	41.6	
Refrigerant-22 24.1	49.0	76.6	

Suction pressures in pounds per square inch gauge, corresponding to the three maximum evaporator temperatures on which the displacements and motor sizes of standard condensing units are based.

Standard condensing units are divided into three types, according to the maximum temperature of the evaporator with which they are to be used: 0°, 25°, and 45°. The normal, average operating suction pressure should not be higher than those pressures corresponding to 0°, 25°, or 45° at saturation.

Table 1 shows the suction pressures for several common refrigerants corresponding to these temperatures. If the compressors are operated for any considerable length of time at suction pressures above those shown (other than for short pull-down periods), the motors will be overloaded and may be damaged, or the overload protector may "kick-out" in order to prevent motor damage.

AIR CIRCULATION AROUND COMPRESSORS

Boxes may have been piled around the condensing unit, or shelving may have been built dur-

ing the winter, or other obstacles placed to retard good air circulation. These conditions will cause high discharge pressures. In fact, anything that increases the discharge pressure, reduces the capacity of the condensing unit; and this is one of the first things to check, to trace the cause of reduced capacity, excessive running time, or failure to maintain proper temperatures.

Later we will further consider the things that may be done to increase the capacity of condensing units and particularly those weak ones that need just a little more capacity to enable them to "get by" during the extra-hot summer days.

(To Be Continued)

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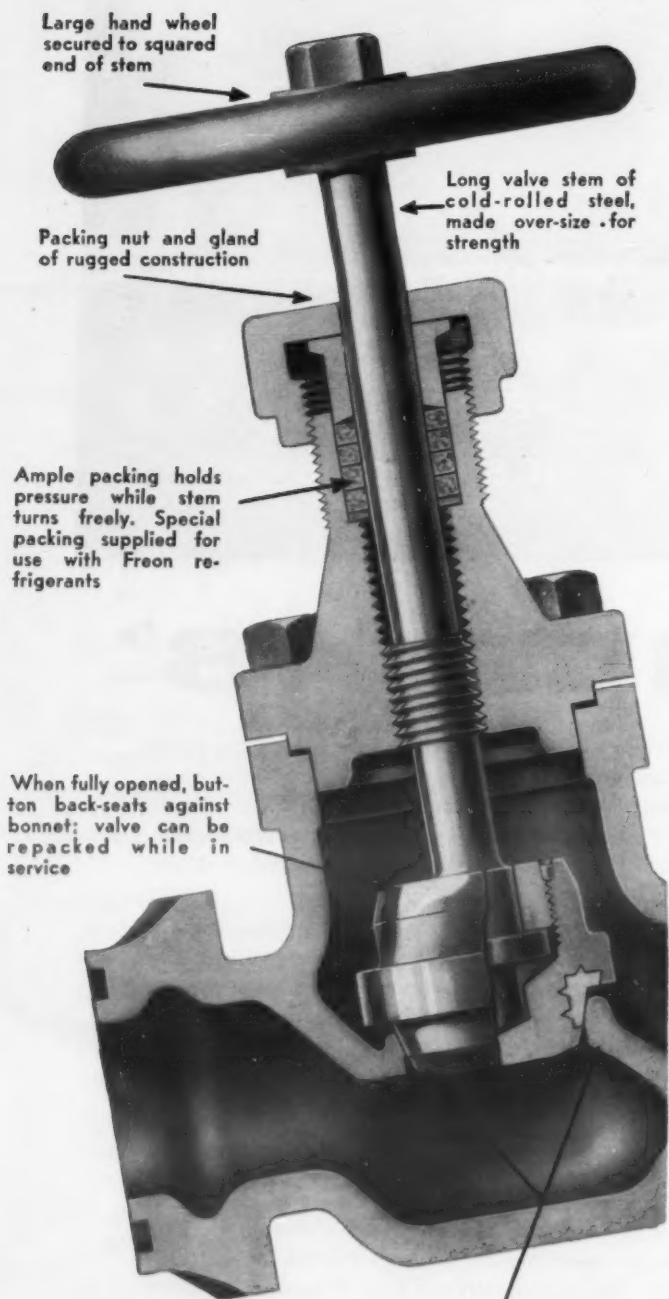
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Packing nut and gland
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Ample packing holds
pressure while stem
turns freely. Special
packing supplied for
use with Freon re-
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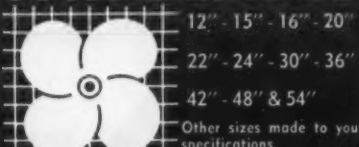
When fully opened, but-
ton back-seats against
bonnet; valve can be
repacked while in
service

Castings of "May-
pul" steel, especially
developed for am-
monia, Freon and
high-pressure work

Patented high-angle seat
insures tight closure with
minimum pressure. Scale
is pushed off the seat
as valve enters

DEPENDABLE REFRIGERATION SINCE 1882
FRICK CO.
WAYNESBORO, PENNA., U.S.A.

FAN BLADES



12" - 15" - 16" - 20"
22" - 24" - 30" - 36"
42" - 48" & 54"
Other sizes made to your
specifications.

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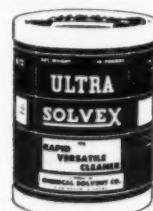


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Men on the Move . . .

Dunham-Bush, Inc.—Appointment of R. G. POTTER as sales engineer has been announced. He will represent the firm in Oregon and Washington. He previously was associated with Commercial Refrigeration, Inc. as manufacturer's representative.

Tyler Refrigeration Corp.—LEN PEAK has assumed the responsibilities of central west coast area divisional manager and will handle distribution as well as national chain sales. He will continue to make his headquarters at 351 Arroyo Dr., South San Francisco.

Le Roi Div., Westinghouse Air Brake Co. (Milwaukee)—DONALD M. McDOWELL has been named manager of engineering, a promotion from acting manager.

Insulation Div., Armstrong Cork Co.—JOHN J. ROPER, assistant district manager of the Boston office, has been named district manager, succeeding T. R. NUNAN who retired.

L.O.F. Glass Fibers Co.—ROBERT O. DORSE has been named field representative with the Pacific Coast Div. with headquarters in Seattle. Previously he was with Glass Fibers, Inc.

Kennecott Copper Corp.—PETER S. BARNO was elected vice president-public and industrial relations and a director of subsidiary Chase Brass & Copper Co. He succeeds RODNEY CHASE who retired.

Olin Mathieson Chemical Corp.—ALFRED T. ZODDA was named vice president-operations of Olin Mathieson International Corp. which handles the parent company's overseas activities.

Westinghouse Electric Corp.—SAMUEL J. BRECHNER was appointed general manager of Westinghouse Appliance Sales Co., wholly-owned distributing subsidiary in New York City. He succeeds CORNELIUS J. WARD, transferred to the headquarters staff in Pittsburgh of Louis G. Berger, general manager of Westinghouse Appliance Sales. Brechner has been executive vice president and general manager of Gerald O. Kaye & Associates Corp.

Mechanical Heat & Cold, Inc. (Detroit)—PAUL S. HOSMAN has been elected secretary. He has been a design and estimating engineer with this contracting firm. He will now be in charge of sales and negotiations for contract work. He replaces JOHN S. BLOSSOM who resigned to form a consulting engineering company with Perry H. Ziel in Cincinnati.

Federal Refrigerator Mfg. Co. (Waukesha, Wis.)—WALTER H. LOHMAN, material control manager of the Heil Co., has been named assistant to the president of this firm.

Minneapolis-Honeywell Regulator Co.—JOHN R. LENOX was elected vice president-operations of Data-matic Corp., a wholly-owned subsidiary.

Rich Plan Corp. (Dallas) —GEORGE H. BRADNER has been appointed vice president-director of marketing. He was formerly vice president-marketing for F. C. Russell Co., Cleveland.

Tuck-Aire Furnace Co. (San Francisco) —JAMES SIME has

been appointed purchasing agent. He formerly was sales manager of Dallman Co., distributor. OTTO BRADER has retired after 35 years as plant superintendent.

Aluminum Co. of America—A. R. VAN VORST, formerly assistant product manager of extruded shapes and tubing, has been appointed manager of impact extrusion sales. C. CHRISTY JONES, manager of sales for closures and collapsible tubes, becomes assistant manager of sales for extruded shapes and tubing. ROBERT W. DISPENNETT, formerly manager of packaging foil sales, succeeds to Jones' post. H. ROGER RICHTER was named assistant to the managers of extrusion and tubing sales. He will headquarter at the Vernon, Calif. works.

Milton Roy Co. (Philadelphia)—JOHN A. MITCHELL, JR. has been appointed assistant to the president of this manufacturing engineers of controlled volume pumps and chemical feed systems.

He replaces G. J. WILSON who has been named general manager of the firm's new plant in St. Petersburg, Fla. Mitchell has been order service manager. GEORGE W. SCHNEIDER will be manager of research and development of the Analytical Instrument Div. MILTON R. SHEEN has been appointed manufacturing manager for the new plant.

Pacific Coast Div., A. M. Byers Co.—CHESTER W. LESCHENKO has been assigned field service engineer to cover the Los Angeles area. He has been with North American Aviation Co.

Maytag Co.—JOHN E. SNYDER has been promoted to field service assistant in the Newark branch at Union, N. J. He was supervisor of route servicemen in the Newark branch.

Minneapolis-Honeywell Regulator Co.—Appointment of H. T. (HUB) SPARROW to the newly-created post of director of product research for the temperature control phase of the firm's business has been announced. He formerly was director of engineering for that

No Wonder This Car's -40° Test Room Ice Melted!



A REAL COOL 1957 Plymouth has just been brought out of Chrysler Corp.'s Detroit test "cold room" where car heaters, batteries, cables, coils, and other parts are tested at 40° below zero. Dorothy Tokarczyk is sampling the ¾-in. thick frost covering the test car after it emerges into 90° heat. The ice coating, after 36 hours abiding, melted in nine minutes on the street.

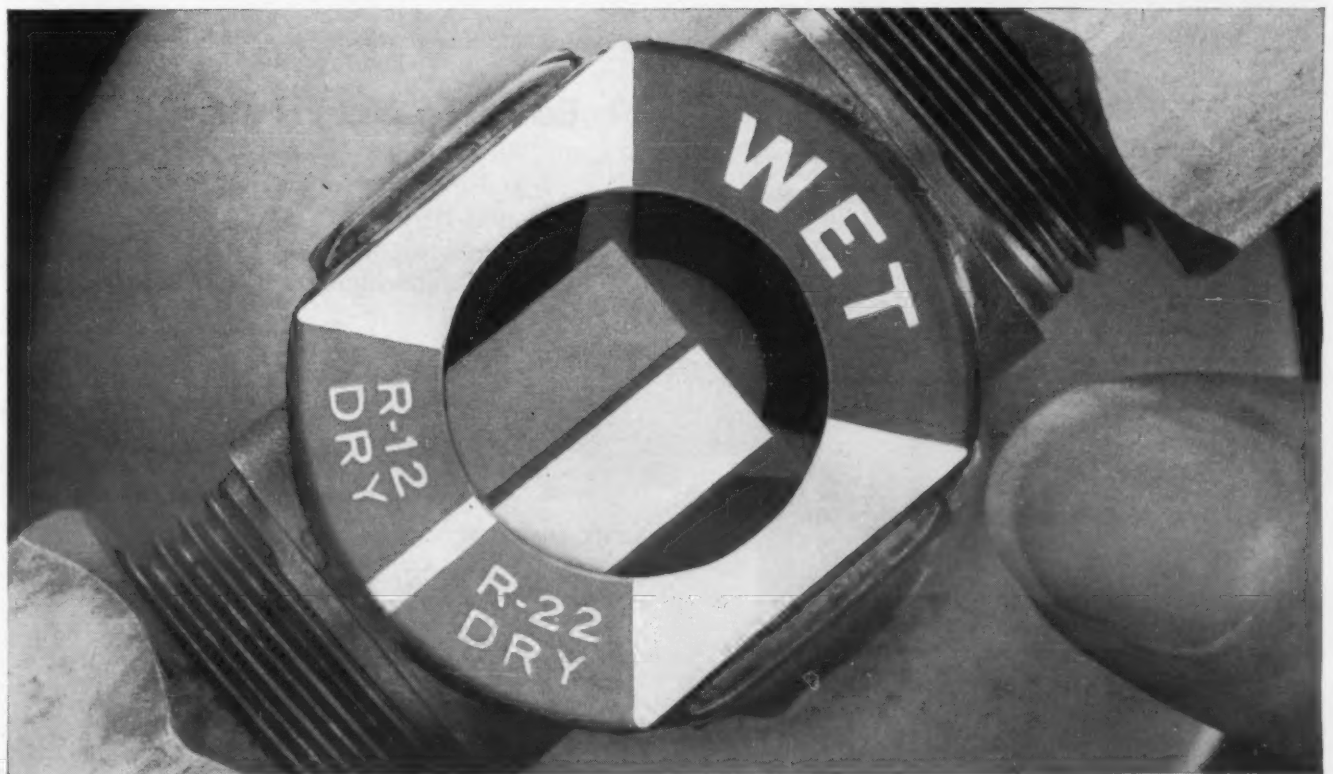
group. STANLEY J. NELSON, who has been factory manager for all but one of the Minneapolis plants, succeeds Sparrow. J. R. (JACK) GENTRY, previously general superintendent of Minneapolis plants, has been named factory manager. DONALD L. MURPHY, assistant general superintendent,

has been upped to general superintendent.

National Industrial Service Association, Inc. (St. Louis)—JOSEPH M. HARRINGTON, formerly the assistant, has replaced FRED B. WIPPERMAN as executive vice president. WIPPERMAN resigned but will remain as consultant.

IT'S HERE!

The world's first moisture indicator with a built-in sight glass. The new **ANSUL SUPER DRY-EYE** tells you at a glance if the refrigerant is dry or dangerously wet, and lets you see the condition of the refrigerant. Here are the four big servicing questions the super **DRY-EYE** answers for you scientifically!



Q. If I am using Freon-12 how will I know if it is dangerously wet or dry?

A. Just look through the big window at the R-12 indicating element. If it is blue the refrigerant is safe; less than 10 parts per million of moisture present. If it is pink, moisture has climbed above 30 ppm—time to change driers.

Q. If I use Freon-22 in a system how will I know if it is wet or dry?

A. If the R-22 element is green your refrigerant is in safe operating condition—less than 20 ppm of moisture. If the element shows pink, moisture has reached the 25 ppm level; time to change driers and avert a costly breakdown.

Q. Will the Super Dry-Eye tell me if there is a low refrigerant charge?

A. Yes. The fused glass window, the first proven leak-proof

sight glass in the industry, permits visual inspection of the refrigerant at all times. Bubbles indicate a low refrigerant charge or a possible restriction in the line.

Q. Is there a simple, economical way of correcting the problems which the Super Dry-Eye tells me about?

A. The T-fitting which houses the Super Dry-Eye can also serve as a connection for an Ansul T-Flo drier without an additional break in the line. The drier screws in like a light bulb and hand tightening gives a leak-proof seal.

The Ansul Chemical Company, Marinette, Wisconsin



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MODEL C
CONDENSATE PUMPS

- ECONOMICAL
- DEPENDABLE
- HEADS to 20 FT.
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- 115 V. OR 220 V.

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Winter Air Conditioning Fundamentals

5. Venting Gas-Fired Central Heating

By H. C. Gurney, Janitrol Div., Surface Combustion Corp.

Never has proper venting of central gas heating equipment been as much of a problem as it is today. Never before have homes been made so tight and weatherproofed as at present.

New homes and old homes are being insulated, weatherstripped, and fitted with double glass or storm windows for greater inside comfort and heating economy.

Venting Avoids Service Calls

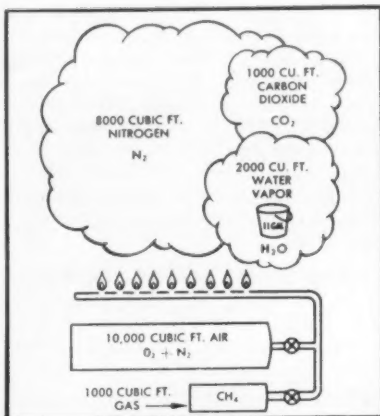
Thousands of service calls to answer complaints of excessive moisture, odors, etc., could be avoided each year if a proper venting system had been in-

stalled and proper provision been made for admission of adequate air for combustion.

Few people recognize these construction trends as being an important factor influencing the proper venting of the heating equipment. This is because of lack of public understanding of the function and purpose of the vent pipe to carry the burned gas to the outside.

When we burn coal or oil, everybody knows we connect it to a chimney to get rid of the smoke. In the case of gas, we usually obtain complete combustion so we do not see smoke as something visible.

We do, however, produce an



WHAT makes up products of gas combustion shown here.

invisible smoke, more properly called products of combustion. These products are nitrogen, water vapor, and carbon dioxide. These products must be vented from the premises just as surely as if they were visible smoke.

If, in this venting process, we keep them above the dewpoint

we have no problem, but if we let them fall below the dewpoint, water forms in the vent and we have trouble.

Actual Makeup of Flue Products

Let's take a look at the actual makeup of these flue products. Let's say we are going to burn 1,000 cu. ft. of natural gas. In order to burn this gas we have to mix it with 10 parts of air to one of gas. We would, therefore, have 11,000 cu. ft. of mixture of gas and air.

When we ignite this mixture, we do not destroy it, we merely change its form. This is nothing new. It is something we all learned in high school, elementary physics that combustion doesn't destroy anything, it simply changes its form.

After the mixture is burned, we still have 11,000 cu. ft. of stuff to get rid of. It is made up of 8,000 cu. ft. of nitrogen,



VENT should terminate 2 ft. above the top of any obstruction within 12 to 15 ft.

2,000 cu. ft. of water vapor, and 1,000 cu. ft. of carbon dioxide. If condensed, the 2,000 cu. ft. of water vapor would form approximately 11 gals. of water.

If the fuel gas has any sulfur, then any condensate formed will contain sulfurous or sulfuric acid which greatly increases the corrosive nature of the condensate. To keep corrosive action to an absolute minimum, we must keep these products of combustion above the dewpoint which ranges between 125 and 175° F.

The amount of water vapor produced as fuel is burned is dependent upon the percentage of hydrogen in the fuel. Natural gas is about 25% hydrogen, domestic fuel oils (No. 1 and No. 2) between 12 and 13%, and soft coal about 5.5%. Roughly, combustion of natural gas produces twice as much water vapor as domestic fuel oils and almost five times as much as coal.

Several years ago Purdue university investigated the venting of gas appliances, primarily when no masonry flues were available. Investigation resulted in the publication of Purdue Engineering Bulletin No. 103 by C. E. Blome and J. L. Bray. This bulletin covers in detail seven of the most common venting problems and their solution.

Research Conclusions

Briefly, Purdue Research leads us to conclude that good venting installation practice can be reduced to a few simple rules.

1) As far as local codes permit, vents should be constructed of materials that will retain a maximum of heat in the flue products, permitting the vent to be rapidly heated and maintained at a temperature above the dewpoint, ranging between 125 and 175° F.

2) Vents must be properly sized . . . neither too large nor too small. Manufacturer's instructions should be rigidly followed.

3) The lateral vent run should be as short and direct as possible, sloping upward from the furnace at no less than 1/4-in. per lineal foot.

4) Install the draft hood exactly as called for in the manufacturer's instructions.

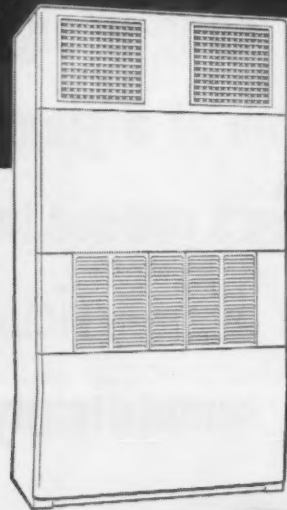
5) The vent should terminate 2 ft. above the top of any obstruction within 12 to 15 ft. or have an anti-backdrop cap installed.

6) The vent should not terminate in a pressure pack location (near a vertical wall or parapet).

7) Provision must be made for an adequate and continuous supply of air for combustion and heater room ventilation.

8) Corrosion resistant materials used in vent connections will assure long, trouble-free service.

DETROIT NO. 714 AIR CONDITIONING EXPANSION VALVES



★ Broad Range of Application

2 to 10 tons—12—3 to 17 tons—22

★ Sweat Connection Sizes

Inlet 1/2" to 3/8" O.D.—Outlet 5/8" to 1 1/8" O.D.

★ "G" Charge Level Action Feeler Bulb

Minimizes surge for very close superheat control and maximum valve operating efficiency.

★ Easy To Service

Custom charged power elements can be interchanged for different refrigerants and various capacities.

Entire valve easily disassembled for inspection and cleaning, without removing from the line.



Also available with other Detroit custom charges; "C" for commercial, "Z" for low temperature.

THE 790-L DISTRIBUTOR (2 to 8 passes) is used with the 714 Valve or any O.D. outlet connection expansion valve of comparable capacity. All outlet circuits are 1/4" O.D.

THE 790-M DISTRIBUTOR (9 to 12 passes) is a solder connection distributor for the 714 Valve or any other O.D. outlet connection valve of comparable capacity. All outlet circuits are 1/4" O.D.

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For more information about products advertised on this page use Information Center, page 22.

Higher Utilization Voltages, Legislation Affecting Refrigerators Studied by NEMA Group

HOT SPRINGS, Va.—Higher utilization voltages for electric appliances, and legislation affecting household refrigerators placed high on the agenda for discussion here at the annual meeting of the Major Appliance Div. of the National Electrical Manufacturers Association.

The two problems were reviewed by L. D. Price, manager of the NEMA Engineering and Safety Regulations Dept.

The heart of the first of these problems, it was explained, is the ever-increasing residential electrical load and the utility industry's problem of trying to provide for it over existing secondary distribution facilities. It has been proposed that this might be done by a simple increase in voltage level with resultant increase in circuit capacity.

Present utilization voltages are 120/240, with 120 applicable for lighting and 240 for operation of major electric appliances, such as ranges, water heaters, automatic washers, driers, etc.

HIGHER VOLTAGES MENTIONED

What these voltages could or would be raised to, if all technical and safety problems were solved, is a question, although 240/480 and 277/480 are among the higher voltages mentioned.

The problem now is being explored by a joint committee representing the Edison Electric Institute, the trade association for the utility companies, and NEMA. It is being considered in the interests of utilities, electrical manufacturers, and residential customers.

Price emphasized that the idea for using higher utilization voltages did not originate in NEMA, but that the electrical manufacturers have interested themselves in the matter because "if higher utilization voltages are to be used, it is essential that, if possible a single system be standardized."

In giving the background of the problem and some of the technical details involved in current thinking about it, he said:

"At the end of 1956, there were some 45,710,000 residential customers in the United States. These customers comprise 84.6% of the total electrical customers, produced 40% of the revenue for the utility companies and 25.3% of the energy sales.

LOAD DOUBLES EVERY 10 YEARS

"The traditional 'doubling every ten years' of load growth which has prevailed for many decades appears to be a valid forecast for the average individual residential load for at least the next 20 years. The number of residential customers will increase as a function of population growth and, by 1965, there should be well in excess of 50,000,000 residential meters.

"Considerable impetus has been given to the proposal to use higher voltages by the rapidly expanding use of combination lighting and power circuits in industrial and commercial occupancies at voltages sub-

stantially higher than the voltages normally used for lighting circuits alone.

"Early in World War II, economies in copper and distribution equipments were effected in large industrial buildings by supplying lighting from the three-phase, four-wire, 480-volt power circuits.

"This simplification eliminated the need for paralleling the 480-volt power circuits with 120/240-volt lighting circuits and made use of the fluorescent ballast as the connecting link between 480-volt circuits and standard fluorescent lamps. All this fluorescent lighting was installed over eight feet from the floor by National Electrical Code requirement.

"For portable equipment and

for office uses, 120-volt power was supplied by small dry-type transformers connected to the 277/480-volt feeder circuits.

"The 1953 National Electrical Code extended approval of higher voltages in offices, large schools, and stores with the same limitations of fixture height above the floor, but limited the application to supplying only ballasts of fluorescent fixtures. The conditions which permit the use of 277-volt circuits in these buildings are not present in dwellings, and the economies have, therefore, not been made available in dwellings."

Turning to refrigeration legislation, Price referred, first, to Federal Public Law 930, which is concerned with inside safety

latches being made a part of household refrigerators. He said that the final draft of commercial standards for such latches has been submitted for comment and recommendation.

APPROVAL OF LEGISLATION EXPECTED THIS MONTH

Approval of the legislation by the Secretary of Commerce and publication of it in the Federal Register is expected late this month.

The law makes it mandatory that inside safety latches be built into all household refrigerators manufactured one year and 90 days after publication of it in the Federal Register. Commercial standards for such devices were developed by the National Bureau of Standards with NEMA's cooperation.

Price called attention to supplementary state legislation which requires the removal of doors or latches from abandoned or discarded refrigerators.

Detroit Warm Air Group Will Meet on July 11

DETROIT — The Detroit Warm Air Heating Association will hold its monthly meeting and dinner at the Fort Shelby hotel on July 11.

A board of directors' meeting will begin at 5 p.m., the dinner, for which reservations are required, is at 6 p.m., to be followed by the regular meeting at 8 p.m.

Results of the central air conditioning survey made by E. I. du Pont de Nemours & Co. will be presented by N. W. Kent, central district manager, and James Wright, manager in Detroit.

William Hawkins, assistant general manager, Air Conditioning & Heating Div., Stewart-Warner, will speak on "The Heating Contractors' Opportunity."

Mr. Mulligan gets technical help the easy way

THAT EVENING...
BOY, THIS IS PRETTY COMPLICATED...MAYBE I CAN GET HELP FROM THE MANUFACTURERS

NEXT DAY...
GEE, THESE MANUFACTURERS ARE HARD TO GET HOLD OF
WE'RE SORRY, MR. MULLIGAN, BUT OUR MAN WON'T BE OUT IN YOUR TERRITORY UNTIL NEXT WEEK
GUESS WE'LL HAVE TO HIRE AN ENGINEER

I JUST CAN'T AFFORD TO PAY THEM WHAT THEY'RE ASKING

WELL, I'LL JUST HAVE TO TURN THIS JOB DOWN...AND IT WAS A BIG CONTRACT, TOO

DON'T GIVE UP, MR. MULLIGAN, WHAT YOU NEED IS THE TECHNICAL HELP THAT A COMPLETE AIR CONDITIONING AND REFRIGERATION WHOLESALER CAN GIVE YOU

YOU MEAN I WON'T HAVE TO HIRE A TECHNICIAN?

RIGHT! WE HELP YOU WITH EQUIPMENT SELECTION, PRICE QUOTATIONS, OR ANY TECHNICAL PROBLEMS YOU MAY HAVE

ABC REFRIGERATION SUPPLY CO.? GOT ANOTHER SPECIAL JOB HERE...COULD YOU GIVE ME SOME INFORMATION ON XYZ EQUIPMENT?

SURE CAN!

COMPLETE AIR CONDITIONING & REFRIGERATION WHOLESALER

YOU SAVE TIME, YOU SAVE MONEY when you buy from your complete air conditioning and refrigeration wholesaler. When you need a refrigerant, be sure you always ask for Freon*. It's the refrigerant backed by more than 26 years of Du Pont technical and manufacturing leadership. "Freon" is the refrigerant that sets the industry's standards for purity and dryness.

Buy where you see this sign...

FREON® REFRIGERANTS

*Freon and combinations of Freon- or F- followed by numerals are Du Pont's registered trademarks for its fluorinated hydrocarbon refrigerants.

DU PONT

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

For more information about products advertised on this page use Information Center, page 22.

Servicing Automobile Air Conditioners

(Vol. 2)

BY C. DALE MERICLE

In response to numerous requests, the NEWS has resumed the popular series on automobile air conditioners. Latest models (1956 and/or 1957) of makes covered in the earlier articles, plus additional ones, will be included in this new series, which will describe units of leading "independent" producers as well as automobile manufacturers.

Readers wishing data on earlier models are referred to the first series, which appeared in weekly issues of the NEWS from June 13, 1955, through June 4, 1956, or the handy manual "Servicing Automobile Air Conditioners."

This series, which began in the June 24 issue, opened with a discussion of the A.R.A. auto air conditioner. The current instalment begins the discussion of Artic-Kar units.

ARTIC-KAR (I)

Capitol Refrigeration Mfg. Co.
3922 Kalloch Dr.
Dallas, Texas

Five different models of automobile air conditioners are in the 1957 Artic-Kar line. These include two under-dash units, two designed for trunk installation, and one "built-in" type unit that mounts in the fire wall.

Under-dash units are the "Iceberg," which is a deluxe model (Fig. 1), and the "Penguin," an economy model.

Trunk units are the "Alaskan," a deluxe model which also incorporates an ice-making refrigerator measuring 18 by 7 by

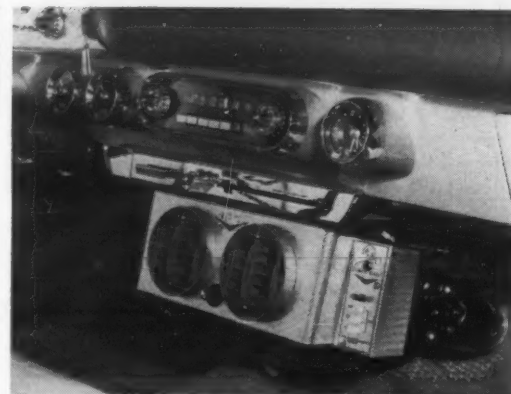


FIG. 1—Deluxe "Iceberg" model in 1957 Artic-Kar line has pushbutton controls.

FIG. 2—"Alaskan" model is a trunk unit that has 18 by 7 by 8-in. refrigerator compartment.



8 in. (Fig. 2), and the "Husky," a moderate-priced model.

"Polar" model fits into the fire wall of some makes of cars, discharging air through diffusers built into the dash.

Compressor is belt-driven through a magnetic clutch off the car engine in all models. Condenser mounts in front of the car radiator.

Refrigerant-12 is employed in all 1957 Artic-Kar units.

Compressor

The Lehigh V-93 compressor is used on all 1957 models. This is a four-cylinder V-type compressor equipped with a positive displacement gear-type oil pump providing pressure lubrication.

This compressor must operate in direction indicated by an arrow cast in the end plate to ensure correct operation of the oil pump. Rotating compressor in opposite direction will result in improper lubrication and bearing failure.

Suction service valve is located on top between the two cylinder heads, and the discharge service valve is at the end opposite the flywheel.

A magnetic clutch is employed on all 1957 Artic-Kar units. Clutch used varies with requirements of individual cars, so Warner, U. S. Clutch, or Eaton clutches may be found on these 1957 models.

Condenser

Condenser is located in front of the car radiator.

A combination receiver-drier-filter-sight glass is incorporated on Artic-Kar condensers.

Evaporator

Cooling case assemblies of the Iceberg and Penguin under-dash units house the evaporator,

thermostatic expansion valve, fan, thermostat controlling clutch operation, blower control, and two round multi-directional air outlets.

A single fan is employed on these under-dash units, a propeller-type fan being standard. At the buyer's option, however, a centrifugal blower is available on the deluxe Iceberg model at extra cost.

Thermostatic expansion valve employed on all five 1957 Artic-Kar conditioners is usually the A-P 206-J, although the Detroit 719-46 will be found on some.

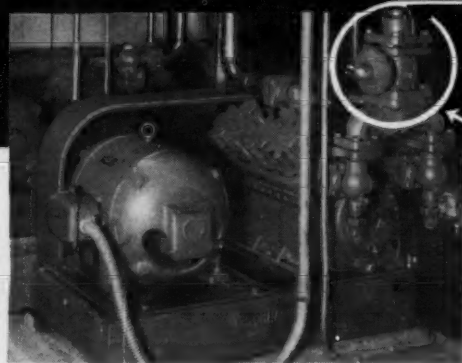
Cooling case assembly of the Polar model is mounted in the fire wall, part of the case being in the engine compartment, part in the passenger compartment. Ducts bring the conditioned air to two adjustable outlets on the dash. This model employs a special type centrifugal blower.

The trunk-installed cooling case assemblies of the Husky and Alaskan models house the evaporator, expansion valve, thermostat, and two centrifugal blowers, which discharge air through outlets in the package tray above. Two return air intakes are also provided in the package tray.

Also in the Alaskan cooling case is the small refrigerator section located in the middle of the cabinet.

(To Be Continued)

SCHNACKE COMPRESSORS AND CONDENSING UNITS feature exclusive



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Capacity Control

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for obsolete cylinder unloading methods which cause unbalanced compressor and hazardous friction heat.

Also fits into suction line of any system and controls evaporator pressure within plus or minus one pound. A simple modulating control—which also eliminates cycling, reduces power consumption, and does not create vacuum conditions.

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For more information write for Bulletin 5519, Furnas Electric Company, 1111 McKee St., Batavia, Ill.

A37

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GARMAN CO., INC. St. Louis 23, Mo.

Cerro de Pasco Buys Lewin-Mathes-- RACCA-UA-- Louisville Gesco--

(Concluded from Page 1, Col. 3) the corporation's common stock outstanding to 2,049,905 shares.

The newly-acquired business will function as a division of the corporation under the name Lewin-Mathes Co. Div. of Cerro de Pasco Corp.

Lewin-Mathes, founded in 1931 by a consolidation of predecessor companies dating back to 1898, has executive offices in St. Louis. Its plant is located on a 49-acre site, of which some 15 acres are under roof, situated at Monsanto, Ill. The company

employs approximately 1,500 people.

"Lewin-Mathes is an integrated producer, with production ranging from secondary smelting and refining of non-ferrous metal through the manufacture of finished products," it was pointed out. "The company recently expanded its production to include brass rod and extruded shapes. At present production rates, it requires for its manufacturing processes some 50,000,000 lbs. of copper annually, together with lesser amounts of zinc and lead."

In a letter announcing the acquisition prepared for distribution to Cerro de Pasco stockholders, Koenig said the acquired business "should contribute towards stability in the earnings of your corporation, provide it with readily expandable facilities for the refining of blister copper, and complement the activities of Circle Wire & Cable Corp. and Fairmont Aluminum Co., your corporation's two wholly-owned United States fabricating subsidiaries."

(Concluded from Page 1, Col. 5) Jersey and Eastern Pennsylvania.

Ray Kromer, executive vice president of RACCA national, told directors that a meeting had been held with representatives of the U. S. Department of Labor, relative to working out the "mechanics" of putting into effect on a broad scale a training program for refrigeration and air conditioning apprentices.

A course of study has been approved by both RACCA and the UA, with which the training program is a joint activity, but the assistance of the Department of Labor is being sought so that the program will be properly presented in the field. Some local RACCA groups have put a training program into effect, but it is hoped that a national program with universal features will be worked out.

RACCA of Southern California, Inc., a strong contractor group in the southern California area, which pulled away from the national group a couple of years ago, made an application for re-affiliation earlier this year, which was accepted.

(Concluded from Page 1, Col. 4) refrigerator, freezer, room air conditioner, electric range, washer, dryer, "Disposal," and dishwasher will be distributed to dealers with a "Fair Value" price tag.

The price represents the actual cost of the article to the retailer plus his normal markup. It is not padded to allow retailers to offer purchasers unrealistic trade-in allowances, according to F. S. Suhler, Gesco district manager here.

Consumers will be offered the actual value of their used appliances and will be charged a fair and equitable price for the new appliance, he explained.

The idea was presented to the Louisville area public through a four-page special supplement in the Louisville Courier-Journal recently.

It would mean "new, low appliance prices" for the consumer, the supplement emphasized. How it would do so was illustrated in one dealer advertisement included in the supplement.

This dealer, Bonnycastle Hardward Stores, advertised a model BH-12P 12-cu. ft. refrigerator at a "Fair Value" price of \$379.95, "even less with trade-in."

The advertisement said a "Brand A" 12-cu. ft. double-

door refrigerator had a retail price of \$549.95. Less \$150 trade-in, the purchaser paid \$399.95.

On the other hand, with a \$35 trade-in, the BH-12P would cost only \$344.95.

Other dealer ads in the supplement showed "Fair Value" prices of \$199.95 on the 1-hp. Model R-60P room air conditioner, \$399.95 on an 18-cu. ft., "Book Shelf" freezer, and \$199.95 on a LB-10P refrigerator with magnetic door and revolving shelves.

In a statement of price policy on G-E appliances and television published in the supplement, Gesco said, "the suggested retail prices of G-E major appliances and television represent what we believe to be an honest appraisal of the reasonable value of the appliances to the consumer."

Suhler emphasized this plan applied to the Louisville area only.

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No costly adapter needed for attaching evaporator cabinet to Armstrong Furnace	1
All internal refrigeration tubing is complete, ready to go	1
Armstrong units are lightweight, easy to handle	1/4

Armstrong "Frigipak" and split system air conditioners save you 9 1/4 hours

With Armstrong you can increase your profits and sell more jobs by saving labor time . . . and one man's labor for a day can cost you a pretty penny over several jobs. Armstrong air conditioning equipment is built to last, too. Saves time . . . saves expense of numerous service calls.

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Division of NATIONAL UNION ELECTRIC CORPORATION



UA Signs Contracts--

(Concluded from Page 1, Col. 5) 15 tons capacity, a special wage rate will be negotiated. On equipment over 15 tons, the building trades rates in the area will apply.

As in the New Jersey contract, the new agreements provide freedom of movement for the individual mechanic. He can move into any local in the area.

He gets a building trades book stamped refrigeration and air conditioning division. With this he can perform installation and service work on any job using building trades.

The contracts also set up a joint training program for apprentices and journeymen and a cooperative union-contractor industry promotion program.

Cities covered by the new agreements are Harrisburg, Reading, Williamsport, Scranton, Carbondale, Wilkes-Barre, Hazleton, Shamokin, Stroudsburg, Allentown, York, Lancaster, and Pottsville.

Thomas Named--

(Concluded from Page 1, Col. 2) dustry since 1926. Until March of this year, he was executive vice president and a director of McQuay, Inc.

He resigned from that firm to set up his own company at Effingham, Ill., representing manufacturers of heating, air conditioning, and commercial refrigeration products. He is discontinuing this company in order to accept the position of general manager of the Betz Div.

Steel Outlook--

(Concluded from Page 1, Col. 4) must compile their own costs first before they can tell what adjustments may be needed. This may take a couple of weeks.

One air conditioning equipment manufacturer said that there is bound to be a slight increase in price because the cost of motors as well as steel has gone up. His company is still reviewing the situation, he said. He couldn't guess what percentage increase there might be.

A commercial refrigeration component manufacturer also pointed out that steel is only one of the materials that has gone up in price. He said a review of the situation will be made when all costs are in to see what steps will be taken.

In the appliance field, Kelvinator expects to see a 5% increase on its 1958 line, with home laundry equipment leading the way.

Whirlpool Corp. indicated that it would pass along the added cost of steel to the consumer, with higher prices to be established in a month or so.

Anticipated consumer unwillingness to accept a price increase on some appliances is causing some manufacturers to hesitate in raising prices, it was indicated.

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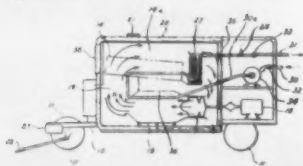
- ★ Eliminates the need for a separate valve for each hermetic unit serviced. Master valve is furnished with adapters and stem extensions to service specific units.
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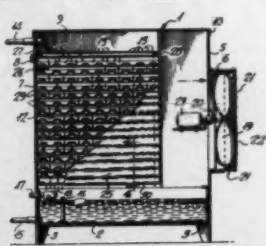
PATENTS Weeks of May 7 and May 14

2,791,401. MOBILE HEATING AND COOLING APPARATUS. Eric W. Harslem, Hackettstown, N. J., and Louis F. Muller, San Diego, Calif., assignors to Reaction Motors, Inc., Denver, N. J.



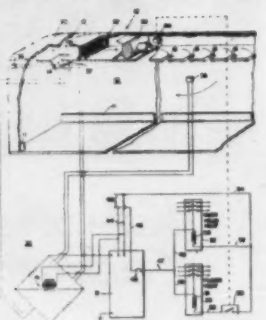
1. A mobile apparatus for on-the-site conditioning of fluid in the field comprising a wheeled trailer having insulated top, bottom, and side and end walls forming a fluid conditioning chamber, partitions mounted in and so spaced from the walls of said chamber as to form a closed flow path for fluid in said conditioning chamber, said flow path successively including heating means, cooling means, and additional cooling means, means mounted in said chamber for continuously circulating conditioning fluid through said closed path, a closed conduit having an inlet and an outlet into and out of said chamber and extending through said flow path, the portion of said conduit adjacent said outlet being sinusoidally disposed in said chamber and provided with heat exchange fins on its outer-surface. . . .

2,791,408. COOLING TOWER. Frank Lewis, Louisville, Ky.



1. In a cooling tower, a cabinet having a water distribution pan at the top and a water collection pan at the bottom connected by side plates, an end plate for said cabinet having an opening therein, a fan removably mounted exteriorly of said cabinet in axial alignment with said opening, a removable guard about said fan, a wet deck cartridge slidable into and from said cabinet through the open end thereof, and a grille attachable to said open end, said wet deck cartridge comprising, rectangular end frames, side plates of corrugated and perforated material connected to said end frames with the corrugations extending horizontally. . . .

2,791,670. AIR-CONDITIONING SYSTEM. Carl P. Murphy, Crystal, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

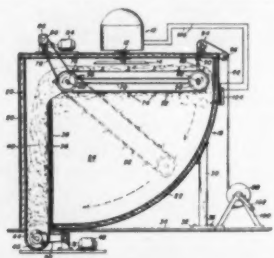


5. In a heating system in combination with a space to be heated, a floor level electric unit for supply major heat loss from said space, an air circulation passage above said space having an inlet leading from the space and outlets leading to said space, a duct leading from without said space into said passage which together with the inlets to the passage supply the ventilating air for said space, a blower forcing the ventilation air through said passage and through said outlets to said space, a ventilating air electric heating unit positioned in said duct for heating the ventilation air, means operative upon a decrease in temperature of said space below a predetermined level for controlling the energization of said floor level and said ventilating electric heating unit, and temperature responsive switch means positioned in said passage and responsive to the temperature of the ventilation air and connected in circuit with said temperature controlling means for de-energizing said floor level electric heating unit upon a decrease in temperature of said ventilation air. . . .

2,791,837. ICE PARTICLES STORAGE AND DISPENSING DEVICE. Irving Hennig, Biloxi, Miss.

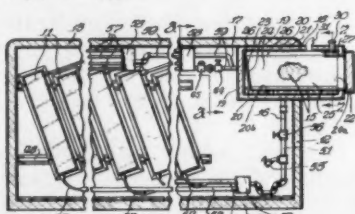
A flake ice storage and dispensing device comprising a bin adapted to have ice flakes delivered thereto, said bin comprising an upstanding end wall, a second upstanding wall parallel to said first upstanding wall and of lesser height than said first upstanding wall, a curvilinear storage floor extending

from the bottom of said second upstanding wall to the height of said first upstanding wall, side walls extending



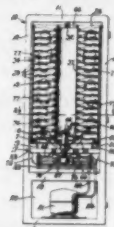
from said first upstanding wall to said curvilinear floor, said upstanding wall providing a discharge chute therebetween. . . .

2,791,838. HEAT EXCHANGE APPARATUS. James Van, Midlothian, Ill., assignor to Controlled Heat Transfer Corp., Chicago.



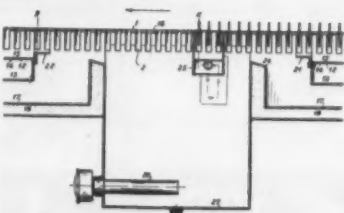
1. Refrigeration apparatus comprising an ultimate heat exchange panel having a plurality of internal longitudinal passages for refrigeration liquid, said longitudinal passages connecting at the ends thereof into a single entry header and into a single exit header respectively, an entry connection and an exit connection for said entry and exit headers respectively, said panel being positioned within a space to be cooled with said longitudinal passages disposed at an angle with the vertical and with said entry connection relatively lower than said exit connection, a heat exchange retarder formed of cellular material enveloping said panel, basic heat absorbing means, said means comprising an enclosed insulated bunker, a container for solidified carbon dioxide within said bunker, a reservoir for refrigeration liquid substantially surrounding said container and formed between the floor and walls of said container and the insulated floor and walls of said bunker. . . .

2,791,839. REFRIGERATED ARTICLE DISPENSING APPARATUS. Spencer L. Childers, Fresno, Calif., assignor, by mesne assignments, to The Vendo Co., Kansas City, Mo.



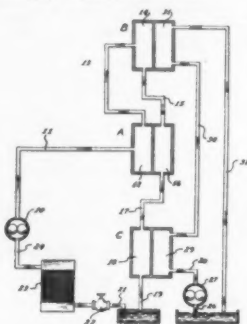
4. In a refrigerated article dispensing apparatus having a cabinet, a magazine mounted in the cabinet having an upper end adapted to receive articles to be dispensed in substantially erect stacks therein and a lower end, and means for dispensing the articles in the stacks from the lower end of the magazine; the combination of a refrigeration system having an evaporator located in the cabinet beneath the magazine, a fan mounted adjacent to the evaporator beneath the magazine and arranged to draw air through the evaporator and to discharge the air upwardly toward the magazine and substantially concentrically thereof. . . .

2,791,890. MACHINES FOR PRODUCING SOLID MOULDED BODIES, ESPECIALLY ICE-CREAM BRICKS. Olaf Gudmund Hoyer, Aarhus, Denmark.



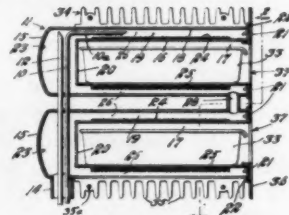
1. Machine for the production of solidified moulded bodies by refrigeration of liquid material comprising a mould with refrigeration cells, means for conveying the mould in a horizontal path around a stationary axis, a stationary refrigeration bath forming a stationary refrigeration zone extending over part of said horizontal path, sluiceways terminating the refrigeration bath permitting level passage of the cells along said horizontal path and a thawing bath forming a thawing zone extending over another part of said horizontal path. . . .

2,791,891. REFRIGERATION HEAT EXCHANGE CIRCUIT. General W. Ace Lance, Phoenix, Ariz.



1. A refrigeration heat exchange circuit including a refrigeration compressor having its pressure discharge connected to a first chamber of a first heat exchanger, a second heat exchanger having a first chamber connected to receive refrigerant from said first chamber of the first heat exchanger, means connecting refrigerant discharge from the first chamber of the second heat exchanger to a second chamber of the first heat exchanger, a third heat exchanger having a first chamber connected to receive refrigerant from the second chamber of said first heat exchanger, means for connecting refrigerant discharge from the first chamber of said third heat exchanger through a receiver. . . .

2,791,892. COOLING UNIT FOR ABSORPTION REFRIGERATION APPARATUS. Gunnar Axel Grubb, Bromma, Sweden, assignor to Aktiebolaget Elektrolux, Stockholm, Sweden.



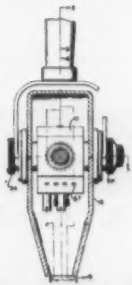
1. In absorption refrigeration apparatus employing an inert gas into which refrigerant evaporates, a double-walled evaporator having a multi-sided inner wall member defining a freezing space and an outer wall member disposed about said inner wall member and forming therewith an evaporating chamber, said chamber having an inlet and an outlet for circulation of inert gas therethrough, means for conducting refrigerant into said chamber for evaporation therein in the presence of the gas. . . .

2,791,910. TAKE-UP DEVICE FOR V-BELT DRIVES. William A. Eckley, Palos Heights, Ill., assignor to Goodman Mfg. Co., Chicago.



A V-belt take-up device comprising a fixed support, a rotatable support of circular configuration, a pair of idler members mounted on said rotatable support substantially diametrically thereof and arranged to have a reach of a belt trained therearound, a plurality of spaced circular openings in said rotatable support substantially at the periphery thereof, a take-up arm for maintaining said rotatable support in a position for properly tensioning said belt including a hook at one end of said arm selectively engageable with one of said spaced circular openings, and means for anchoring said takeup arm at its other end comprising a bracket disposed on said fixed support, said bracket having an aperture therein through which said takeup arm extends, and means threadably engaged against said takeup arm and bearing against said bracket for adjusting the position of said takeup arm and said rotatable support. . . .

2,792,018. DISPENSING VALVE WITH INDIVIDUAL FLOW-RATE CONTROL. Anthony Turak, Cleveland, Ohio.



2. A beverage mixing and dispensing valve comprising, a valve body, said body having a valve socket chamber, a plurality of fluid conduits leading from the exterior of said body into said valve socket chamber, a valve plug rotatably mounted fluid-tight in said valve socket chamber, said valve plug

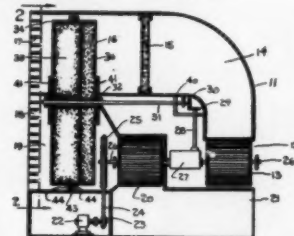
Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Copies should be ordered by number and title and a mention of the fact if they are either Designs or Reissues.

Address orders for any of the above to: Commissioner of Patents, Washington 25, D. C.

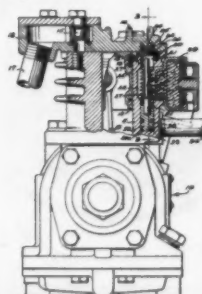
having longitudinal end walls exposed to atmosphere, a plurality of passageways laterally through said valve plug, said valve body having a plurality of receiving chambers each positioned to register with different ones of said plurality of passageways in one rotational position of said valve plug.

2,792,071. NON-FROSTING HEAT EXCHANGER. Neal A. Pennington, Tucson, Ariz., assignor to one-fifth to Robert H. Kenley, Tiptonville, Tenn., and one-fourth to Roger Sherman Hoar, South Milwaukee, Wis.



1. A heat-exchanger of the type comprising: two air-passages, parallel and adjacent; a wheel-like casing having spokes, a hub, and a rim, all impermeable, and all of substantially the same width in an axial direction, said spokes dividing the casing into sectors; a packing of air-permeable material, said packing substantially filling each sector, and being packed into each sector with such compactness as to remain freely air-permeable and yet be so self-sustaining as to be substantially immovable with respect to the casing during the rotation of the casing even in a vertical plane. . . .

2,792,169. COMPRESSOR VALVE CONTROL MEANS. Harry M. Valentine, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Co., Elyria, Ohio.

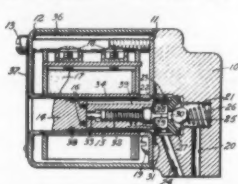


1. In a two-cylinder compressor of the type having an inlet port in the wall of each of the cylinders, a pair of inlet cavities communicating with each of said ports, an inlet chamber, a pair of parallel inlet bores communicating said chamber with each of said cavities, and inlet valves in said cavities, normally closing each of said bores, the improvement which comprises unloader means for said compressor including a pair of auxiliary pistons and cylinders disposed in said chamber in axial alignment with said inlet bores, a plunger on each of said pistons extending into said bores and being movable in a valve opening direction to open said valves upon admission of fluid pressure to said auxiliary cylinders, a shoulder on each of said plungers, a bridge member extending between said plungers and having its opposed ends seated on said shoulders, spring means acting on said bridge member to maintain said plungers normally out of engagement with said valves and normally opposing movement of said pistons in a valve opening direction. . . .

2,792,195. SOLENOID VALVE WITH IMPACT TYPE ACTUATOR. Bruce H. Mosbacher, Rockford, Ill.

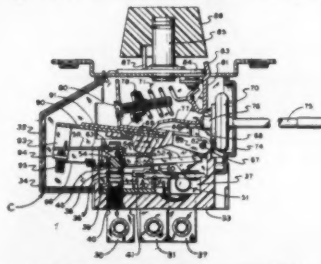
A solenoid valve comprising an inlet chamber for receiving fluid under pressure, an outlet chamber for discharging the fluid from the valve, a valve closure member operative to control the flow of fluid between said cham-

bers, a valve spring biasing said closure member to its closed position blocking communication between said chambers, a solenoid coil, a pole piece disposed within said solenoid coil, an



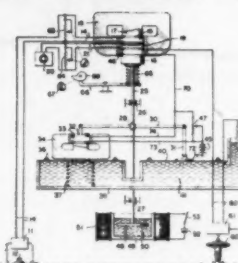
armature of magnetic material slidable within said solenoid coil and adapted to abut at one end against said pole piece, a plunger having a rigid connection to the other end of the armature and positioned at the outlet side of said valve closure member and operative to engage the latter upon movement of the armature away from said pole piece. . . .

2,792,466. CONTROL APPARATUS. Estel C. Raney, Fort Lauderdale, Fla., assignor to Ranco Inc., Columbus, Ohio.



1. Control apparatus comprising an electric switch mechanism including a contact member movable between two circuit controlling positions, a lever, a pivot for said lever, said lever being rotatable about its pivot in one direction to actuate said switch mechanism to cause said contact member to be moved from one controlling position to the other, and an actuator movable through a given range in opposite directions and operative when moved adjacent to one extremity of its range of movement to actuate said switch mechanism to cause said contact member to be moved from said one controlling position to the other. . . .

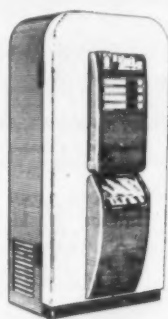
2,792,565. CONTROL APPARATUS. William J. Popowsky, Philadelphia, Pa., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.



1. Electro-mechanical apparatus for use in a controller comprising, signal conversion means for producing an output electrical current proportional to a variable, and circuit means including an electromagnetic feedback coil having said current flowing therein for acting regeneratively upon said conversion means to produce an additional current change in the same direction as produced by the signal conversion means to increase the gain thereof. . . .

DESIGNS

190,267. VENDING MACHINE FOR CARTONS OF MILK, BOTTLED BEVERAGES OR THE LIKE. Floyd V. Bookout, Independence, Mo., assignor to The Vendo Co., Kansas City, Mo.



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- expanding your territory
- taking on new lines—

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SYNOPSIS OF PROPOSED PROCUREMENT

AIR FORCE

Base Procurement Office, March Air Force Base, Calif.
INSTALLATION OF HEATING AND AIR CONDITIONING SYSTEM in 5 Family Quarters, March Air Force Base, Calif.—Job—IFB 04-605-57-114—Bid Opening 15 July 57.

NAVY

Commanding Officer, Ships Parts Control Center, Mechanicsburg, Pa.
REFRIGERATOR-MECHANICAL, Naval Shipboard, Type II, Size 8, shall be in a/w the requirements of Mil Spec. MIL-R-1834, except as otherwise provided in IFB. Power supply is to be of 115 V., single phase, 60 cy. alternating current, for Hermetic Sealed Compressor. Technical Manuals are to be furnished by the contractor shall be Type C, and in a/w Mil Spec. MIL-T-15071, except as modified in IFB-50 ea.—IFB 104-43-58—Bid Opening 24 July 57.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Business Service Center, Region 3, 7th & D Sts., S.W., Washington 25, D. C.
AIR CONDITIONING, LIGHTING, AND RELATED WORK, U. S. Post Office, Court House, and Custom House, Newport News, Va.—Job—IFB GS-R3-B-5709—Bid Opening 7-16-57.

General Services Administration, Region 4, Business Service Center, 50 Seventh St., N.E., Atlanta 23, Ga.
AIR CONDITIONING, etc., Columbus, Ga., Post Office and Court House—Job—IFB CR4-1685—Bid Opening 7-23-57.

General Services Administration, Region 2, Business Service Center, 250 Hudson St., New York 13, N. Y.
The following items are procured under IFB NY-2GB-70891—Bid Opening 7-15-57.
AIR CONDITIONING UNITS, 3 ea.— $\frac{3}{4}$ ton, 3 ea.—1 ton, 115 V., 1 ea., 1 ton—13 ea., $1\frac{1}{2}$ ton, 208 V.

'What's Temperature?' Promotion Prize To Be Air Conditioning Unit

CINCINNATI—First award in a local newspaper's "What's the Temperature?" contest, which began June 24, is to be a 1957 model air conditioning unit. Contest is being held in conjunction with an air conditioner, heat pump, and fan display in the lobby of Cincinnati Gas & Electric Co. here.

Beginning June 17, Frank Lloyd Wright's new "Air House" has been on display, giving visitors a chance to tour the balloon-like structure entirely supported by internal air pressure.

After visiting the Air House, guests are asked to estimate the average temperature inside the vinyl plastic structure for the current 24-hour, midnight to midnight period, and the average outside temperature for the same period.

Contestant who makes the most accurate estimate each day receives a Welch "Air Flight" circulator. The 25 daily runners-up each get a thermometer. The contestant making the most accurate daily estimate during the entire contest will receive the air conditioning unit.

What's the Temperature? contest opened June 24 and will run to the close of the exhibit, July 12.

AT YOUR WHOLESALE KESCO AUTOMATIC CONDENSATE WATER DISPOSAL PUMPS MODELS FOR ALL AIR CONDITIONERS ICE CUBE BINS DRINKING FOUNTAINS Mfg. & Guaranteed by Kesco Products EST. 1944 P.O. Box 84 SPRINGFIELD GARDENS 13, N. Y.



Incremental System Parts Shown In N. Y. By Remington Corp.

AUBURN, N. Y.—Remington Corp. had a display of the chief elements of its new "Incremental System" of air conditioning for multi-room buildings in the Astor Gallery of the Waldorf-Astoria hotel June 23-27.

The display was in conjunction with the annual convention of the National Association of Building Owners and Managers, according to the announcement.

The Remington exhibit also included photo-murals of a few of the buildings in which the new system has been recently installed—the Market Street National Bank building, Philadelphia; the Raleigh building, Raleigh; the Washington building, Washington, D. C.; the Tucker hospital, Richmond; the Beaufort County hospital, Washington, N. C.; the WOW building in Omaha; the Mahoning National Bank building in Youngstown; the new apartment house at 176 E. 77th St., New York City; and the New York office building known as 72 Wall St.

Dairy Equipment Group Elects Girton Chief

WASHINGTON, D. C.—Paul K. Girton, Girton Mfg. Co., was elected president of the board of directors of the National Association of Dairy Equipment Manufacturers at NADEM's 11th annual meeting at the Hollywood Beach hotel, Hollywood, Fla., it was announced here recently.

Gordon A. Houran, the DeLaval Separator Co., was elected vice president.

Girton succeeds D. H. Burrell, III, retiring president of NADEM and vice president of Cherry-Burrell Corp., it was explained.

Now Representing...

Electric Motor Div., A. O. Smith Corp.—J. CARL TURNER, Miami, Fla., will cover Florida and GEORGE CURLEY, JR., Quincy, Mass., will handle New England as manufacturer's agents.

Carrier Corp.—VALLEY SHEET METAL CO., Phoenix, Ariz., has been appointed applied equipment distributor. The firm will continue as a Carrier dealer in commercial and residential self-contained equipment.

Dean Products, Inc.—E. L. BURLINGAME has been appointed sales representative in the New York state area, with the exception of Orange, Putnam, Westchester, and Rockland counties, New York City, and all of Long Island.

Norge Div., Borg-Warner Corp.—Appointment of HOME APPLIANCE DISTRIBUTORS, Little Rock, Ark. as distributor for gas and electric appliances has been announced. It will cover 58 counties in central Arkansas and four in Oklahoma. LEO MAXWELL CO., INC., Oklahoma City, was named distributor to cover all Oklahoma counties except three in the western and three in the eastern part of the state.

Worthington Corp.—BONNETT MFG. & DISTRIBUTING CO., Covington, Ky. has been appointed area distributor for heating and air conditioning equipment.

Westinghouse Electric Corp.—MCCOLLUM-LAW CORP., distributor of consumer products in the Rocky Mountain region, will take over distribution of major appliances, television receivers, room air conditioners, vacuum cleaners, and dehumidifiers in the El Paso section of Texas which was formerly served by ZORK HARDWARE CO. Zork will continue to distribute Westinghouse electrical housewares, radios, and fans.

(Men on the Move column appears on page 29.)

Manitowoc Equipment Works—Appointment of GORDON E. WILKINS, Hawaiian Wholesale Factors in Honolulu and TOM RYAN, Menlo Park, Calif. as area sales representatives for refrigerator-freezer combinations has been announced.

Nitrogen Div., Allied Chemical & Dye Corp.—WISCONSIN REFRIGERATION SUPPLY CO., Green Bay, has been appointed agent to handle sales for Barrett brand anhydrous ammonia in cylinders in northwest Wisconsin and western upper Michigan. MID-CONTINENT CHEMICALS, INC., South Bend, Ind., has been named to handle sales in southwestern Michigan and northern Indiana. THOMPSON-HAYWARD CHEMICAL CO., Shreveport, La., will handle sales in northern Louisiana and eastern Texas.

Madden Brass Products Co. (Aurora, Ill.)—J. A. DORMAN, who has had several years of selling experience at the wholesale level in refrigeration, air conditioning, plumbing, and heating, has been appointed sales representative in the greater New York City area.

Stewart Industries, Inc. (Indianapolis)—Following named manufacturer's representatives to sell the "Kitchen-Aire" line of ventilators and range hoods and the "Stewart-Aire 100" line of fans and hoods have been appointed: J. W. FISCHER CO., Minneapolis, for Minnesota, North and South Dakota; MARVIN E. BORNGESSER, Thiensville, Wis., for Wisconsin; E. J. GIBERT, JR., New Orleans, for the state of Louisiana; GEORGE T. OLSON, Jackson, Miss., for Arkansas and Mississippi; C. W. LEHNER CO., Atlanta, for Alabama, Georgia, and part of Tennessee; and TRADEWAY SALES, Toronto, Ont., Can., to cover all of Canada.

They Won't Be Home (Plant Vacation Schedule)

AUGUST 15 or earlier

This vacation schedule is the fourth in a series, notifying the industry of the periods during which activities of the listed companies will be curtailed or suspended, as noted. CLIP and SAVE, as this list will not be repeated.

Company	Shutdown Period Plant	Office	Shipments From Plant
Airtemp Div., Chrysler Corp.	8/5 -8/16	8/5 -8/16	Regular
Bel-Air, Inc.	8/10-8/18	None	Emergency*
Copeland Refrigeration Corp.	8/5 -8/18	8/5 -8/18	Emergency
Dover Mfg. Co.	8/15-8/31	8/15-8/31	Regular
Friedrich Refrigerators, Inc.	8/9 -8/26	8/9 -8/26	Stock Only
General Electric Co., Home Heating & Cooling Dept. (Tyler, Texas-Trenton, N. J.)	8/5 -8/16	8/5 -8/16	Regular
Lonerger Mfg. Co., division of McGraw Electric Co.	8/12-8/26	8/12-8/26	Regular
Marlow Pumps Div., Bell & Gossett Co.	8/10-8/25	8/10-8/25	Stock Only
National Market Equipment Co., Savage Ice Cream Cabinet Div., C. V. Hill & Co., Inc.	8/5 -8/16	8/5 -8/16	Emergency*
Stoelting Brothers Co.	8/10-9/2	None	Emergency*
F. J. Stokes Corp.	8/5 -8/16	None	Regular
Temprite Products Corp.	8/12-8/23	8/12-8/23	Stock Only
Tyler Refrigeration Corp.	8/5 -8/11	8/5 -8/11	Emergency
U. S. Air Conditioning Corp.	8/3 -8/18	8/3 -8/18	Regular
Vilter Mfg. Co.	8/5 -8/19	None	Regular
Warren Co., Inc.	8/5 -8/9	None	Emergency
Wilson Refrigeration, Inc., div. of Tyler Refrigeration Corp.	8/5 -8/10	8/5 -8/10	Stock Only

*Stock items only.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

EASTERN PENNSYLVANIA, Maryland, and Washington area—Field sales representative, engineering degree, 12 years' successful experience in establishing and promoting volume distribution among distributors and dealers in the window and residential air conditioning field; seeks a challenging opportunity as representative or salary and incentive basis. BOX A5819, Air Conditioning & Refrigeration News.

FORMER FRIGIDAIRE retail distributor—twenty years' experience in sales and promotion in air conditioning and refrigeration fields—desires to represent manufacturer. Well known to distributors—jobbers—engineers in Delaware Valley area and vicinity. Will travel. Can build volume. Commission basis. Write BOX A5829, Air Conditioning & Refrigeration News.

REFRIGERATION INSTALLATION and service engineer with years experience in all phases of refrigeration, field training, and managing personnel, desiring responsible connection with a distributor or manufacturer as sales or service representative. BOX A5831, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

DESIGN AND development engineer with education and experience suitable for work on refrigeration and air conditioning controls. Expanding markets demand an expansion of our engineering work. Join us, and help meet these challenges. Benefits for patents, educational subsidies, and other employee benefits. Modern air conditioned engineering facilities. Located in the Middle West. Reply in confidence giving details of education, experience and salary requirements. CONTROLS COMPANY OF AMERICA (formerly A-P Controls) 2450 No. 32nd Street, Milwaukee 45, Wisconsin.

SALESMAN WANTED to sell Carrier and Federal refrigeration equipment. Permanent for reliable person. No trick deals. Established 32 years. MITCHELL'S REFRIGERATION, 817 State Street, San Diego 1, California.

NATIONAL MANUFACTURER of commercial refrigeration products located in Southeast needs refrigeration engineer to assist chief engineer. Super-

market fixture experience helpful. Submit resume of qualifications and expected starting salary to BOX A5814, Air Conditioning & Refrigeration News. All replies held confidential.

MANUFACTURER'S REPRESENTATIVE for well known line of compressors, condensing units, packaged water chillers and cooling towers 5 to 60 tons. Knowledge of air conditioning necessary—a number of important territories are now available. No objection to heating or other compatible lines. Write fully. BOX A5823, Air Conditioning & Refrigeration News.

SERVICE MANAGER: Refrigeration and air conditioning. Must be competent to assume full responsibility of service department for large Chicago contractor. Excellent salary, bonus, expense account and pension plan. Members of our company know of this ad. If you live outside Chicago, expense of interview will be borne by us. Your reply held in strict confidence. BOX A5826, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

NOTICE: DISTRIBUTORS, dealers, servicemen, users refrigeration equipment—Repair parts available all models Baker ammonia and Freon compressors. We are exclusive Baker export sales office. Manufacturers' export agents refrigeration, air conditioning, and allied equipment. THE KEISER COMPANY, Paul Building, Utica, New York.

NAME PLATES and numbered valve tags—Now available your free 1957 catalog showing most complete line of identification plates and tags for air conditioning and refrigeration use. Easy to affix. Low cost. Engineer and code approved. Free samples. Write SETON NAMEPLATE COMPANY, Dept. AC77, 431 West Rock Avenue, New Haven 15, Conn.

REFRIGERATION GRADE flare fitting closing out complete wholesale stock. Write BOX A5830, Air Conditioning & Refrigeration News for complete list.

BUSINESS OPPORTUNITIES

GOING—SHEET metal, heating and air conditioning business in southeast Florida. Well equipped shop, fine clientele and no limit to possibilities. Business more than I can handle at my age. P. O. BOX 1119, Boynton Beach, Fla.

MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.

FOR SALE—DOUBLE END SHAFT MOTORS

Quantity	Speed	H.P.	Voltage	Amp.	Cycle	Phase	R.P.M.
103	2	1/12	230		60	1	1125
154	2	1/12	208	1.9	60	1	1050
104	1	1/12	230	1.7	60	1	1050
148	1	1/30	115	1.6	60	1	1050
376	2	1/20	230	1.6	60	1	1050
1013	1	1/20	115	2.9	60	1	1050
356	1	1/20	208	1.7	60	1	1050
196	1	1/20	115	3.1	60	1	1050

BOX A5828, Air Conditioning & Refrigeration News

Heat Spurs So. Calif. Cooling Sales--

(Concluded from Page 1, Col. 3)

equipping homes so that air conditioning may be installed, and home buyers are deciding suddenly the installation should be now.

Among newspaper advertisers Carrier Corp. called attention to their "free booklet" and urged "read these facts about air conditioning in southern California."

Most revealing in the booklet is a graph with the caption: "government statistics show temperatures above comfort zone (78°) 10 months of the year in Los Angeles—twice as many days and months as in the majority of states. Temperatures are higher, during 11 months of the year, in our inland areas."

'Business Very Good'

Business was exceedingly good, with more inquiries than ever before at this time of year, according to Harris & Fry, Pasadena dealer-contractor for York Corp. subsidiary of Borg-Warner, and Fraser & Johnston Co.

Harry Schaufhauser, engineer for Harris & Fry, said the inquiries revealed most of the public is not educated to the cost of air conditioning. Of the 12 inquiries the first day of the heat wave, only three could qualify and order installations, bearing out, he said, the findings of the recent du Pont survey.

Peak of the hot spell resulted in sales of design and installation jobs for equipment totaling 50 tons, mostly in 2, 3, and 5-ton units, of which 80% was existing residential, remainder existing commercial structures.

Where a satisfactory forced air heating system exists, Schaufhauser finds it economical to use York's "Pathfinder" unit for some cooling situations. Where a gravity system exists, Fraser & Johnston's complete air conditioning units are often installed using the perimeter duct system, and the old gravity ducts for air return, Schaufhauser said.

'10 Times as Much Residential Business As Being Sold'

"Our biggest competitor is the swimming pool," Schaufhauser said. "They are expensive to install, costly to maintain, and use up family budget cash that might pay for air conditioning."

Worthington's wholesaler, Aircon Equipment Co. of Alhambra, reported through John Winters, vice president and sales manager, excellent response because of the early heat wave.

"Lots of people who have been thinking about residential air conditioning for years, because of the heat are now doing something about it," Winters said.

"Actually, there is 10 times as much residential business available here as is being sold."

"There are a lot of people in the higher income brackets, such as residents of the restricted residential city of San Marino, who come to us and want to know what first class outfit they can go to, to properly install their air conditioning."

"These people want a quiet furnace, a quiet compressor, they don't want a two-ton unit,

where a three-ton unit will give them more cooling power when they need it. They want to do the job right."

Russ Crotwell, regional manager of air conditioning for Lennox Industries, said as a result of the heat "business is terrific."

"Sales really began to rise during this hot spell. We enjoyed considerable increase in June. We are looking for an over-all increase for the year greater than we forecast, because of this early heat wave."

Soon Add Cooling

Crotwell reported home tracts with air conditioning provided for, owners moving in, and soon afterward deciding to add the cooling feature.

Thermalair, Inc., Los Angeles, major installing contractor for Carrier Corp. unitary equip-

ment, reported the heat brought a lot of phone calls, and a lot of leads.

"Up to this time we had not had too many inquiries," Sales Manager E. L. Detrick said. "The heat led to action being taken to install air conditioning by many corporations who had been holding off."

"In June we booked \$278,000 of contracts," Detrick said. "This is the largest month we have had in 10 years of business. We have been doing \$1 million of business a year, and expect to exceed that in 1957 because of this early heat wave."

Thermalair does both commercial and residential installation, but not much home tract work.

"Sales in the month of June were more than all our sales for the entire first year we were in business," said Edward A. Myers, vice president and general manager of Prentiss Corp.,

Los Angeles, now in their fourth year as Carrier Corp. distributor for the five coast counties of Los Angeles, Orange, San Diego, Ventura, and Santa Barbara.

James H. Ahearn, assistant general manager of Prentiss Corp., handling package air conditioning sales, said the "entire air conditioning activity seems to have struck a greatly increased pace during the month of June, stimulated mainly by hot weather."

'In Sold-Up Position'

"Most of our dealers had a long 'dry' spell of sales. Now most of our dealers are in a 'sold-up' position," Ahearn said.

"This big rush points up the fact that extra sales help is not available to follow-up the leads."

"Also that office help is not well enough informed to get the proper information from inquiries."

"We are sure our sales forecast for the year will be met,

and exceeded by a good percentage, and that we will exceed the factory's marketing quota forecast," Ahearn said.

Room air conditioning sales, handled by H. B. Thomas, special products manager for Prentiss Corp., are "terrific."

"Hot weather in June brings every one out of the hole," Thomas said. "Our volume is very high, up over 100% ahead of the same time last year."

July Weather--

(Concluded from Page 1, Col. 4)

normal temperatures are predicted in the northwestern quarter of the country. In other areas not previously specified, normal temperatures are predicted. Precipitation will be about normal.

In its forecast for the 30-day period beginning June 15 the Weather Bureau accurately forecast the hot spell which hit the eastern half of the country.

Here's Why

Dunham-Bush 'CR' Year 'Round Room Air Conditioners provide MAXIMUM FLEXIBILITY



'CR' Console Unit

FLEXIBILITY... in choice of Construction

That's the keynote of the Dunham-Bush line of 'CR' year 'round room air conditioners. Typical of the variations available: cabinet or recessed models; vertical or horizontal models; combination water cooling and heating coils; combination direct expansion and steam coils; three control kits.

FLEXIBILITY... in Selection

Model	CFM Normal Speed	Water Coil Capacities		Inner-Fin Direct Expansion Combination Steam Coil	
		Cooling BTU/hr	Heating BTU/hr	Cooling BTU/hr	Heating BTU/hr
CRV-220 & CRH-220	220	5,600	18,300	6,400	15,300
CRV-330 & CRH-330	330	8,400	25,400	9,800	21,500
CRV-450 & CRH-450	450	13,200	35,300	14,900	28,000
CRV-600 & CRH-600	600	21,000	55,000	23,200	45,300

Cooling capacities (total heat) based on entering air 80° DB, 67° WB, 45° water (or 40° suction).

Heating capacities based on entering air 60°, 2 psig steam.

FLEXIBILITY... in Installation

Vertical models with cabinet can be exposed or semi-recessed, basic units completely recessed. Horizontal units with cabinet can be ceiling suspended in conditioned space; basic units can be utilized for unexposed installation.

Contact your nearest DUNHAM-BUSH Sales Engineer for complete specifications or write for 'CR' catalog.

Dunham-Bush, Inc.

WEST HARTFORD 10 • CONNECTICUT • U. S. A.

DUNHAM-BUSH

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For more information about products advertised on this page use Information Center, page 22.